National Bureau of Standards
Library, E-01 Admin. Bldg.
JUL 3 1969

Reference book not to be
taken from the library.

NBS SPECIAL PUBLICATION 315-1

BIBLIOGRAPHY ON THE HIGH TEMPERATURE CHEMISTRY AND PHYSICS OF MATERIALS

JANUARY, FEBRUARY, MARCH 1969

U. S. DEPARTMENT OF COMMERCE

NATIONAL BUREAU OF STANDARDS

NBS TECHNICAL PUBLICATIONS

PERIODICALS

JOURNAL OF RESEARCH reports National Bureau of Standards research and development in physics, mathematics, chemistry, and engineering. Comprehensive scientific papers give complete details of the work, including laboratory data, experimental procedures, and theoretical and mathematical analyses. Illustrated with photographs, drawings, and charts.

Published in three sections, available separately:

- **Physics and Chemistry**

Papers of interest primarily to scientists working in these fields. This section covers a broad range of physical and chemical research, with major emphasis on standards of physical measurement, fundamental constants, and properties of matter. Issued six times a year. Annual subscription: Domestic, $6.00; foreign, $7.25*.

- **Mathematical Sciences**

Studies and compilations designed mainly for the mathematician and theoretical physicist. Topics in mathematical statistics, theory of experiment design, numerical analysis, theoretical physics and chemistry, logical design and programming of computers and computer systems. Short numerical tables. Issued quarterly. Annual subscription: Domestic, $5.00; foreign, $6.25*.

- **Engineering and Instrumentation**

Reporting results of interest chiefly to the engineer and the applied scientist. This section includes many of the new developments in instrumentation resulting from the Bureau's work in physical measurement, data processing, and development of test methods. It will also cover some of the work in acoustics, applied mechanics, building research, and cryogenic engineering. Issued quarterly. Annual subscription: Domestic, $5.00; foreign, $6.25*.

TECHNICAL NEWS BULLETIN

The best single source of information concerning the Bureau's research, developmental, cooperative and publication activities, this monthly publication is designed for the industry-oriented individual whose daily work involves intimate contact with science and technology—*for engineers, chemists, physicists, research managers, product-development managers, and company executives.* Annual subscription: Domestic, $3.00; foreign, $4.00*.

*Difference in price is due to extra cost of foreign mailing.

Order NBS publications from:

Superintendent of Documents
Government Printing Office
Washington, D.C. 20402

NONPERIODICALS

Applied Mathematics Series. Mathematica tables, manuals, and studies.

Building Science Series. Research results, tes methods, and performance criteria of building materials, components, systems, and structures.

Handbooks. Recommended codes of engineerin and industrial practice (including safety codes) developed in cooperation with interested industrie professional organizations, and regulatory bodies.

Special Publications. Proceedings of NBS conferences, bibliographies, annual reports, wall chart pamphlets, etc.

Monographs. Major contributions to the technical literature on various subjects related to th Bureau's scientific and technical activities.

National Standard Reference Data Series NSRDS provides quantitative data on the physica and chemical properties of materials, compiled fror the world's literature and critically evaluated.

Product Standards. Provide requirements fc sizes, types, quality and methods for testing variou industrial products. These standards are develope cooperatively with interested Government and industry groups and provide the basis for commo understanding of product characteristics for bot buyers and sellers. Their use is voluntary.

Technical Notes. This series consists of communications and reports (covering both other agenc and NBS-sponsored work) of limited or transitor interest.

Federal Information Processing Standard Publications. This series is the official publicatior within the Federal Government for information or standards adopted and promulgated under the Public Law 89–306, and Bureau of the Budget Circular A–86 entitled, Standardization of Data Elements and Codes in Data Systems.

CLEARINGHOUSE

The Clearinghouse for Federal Scientific anc Technical Information, operated by NBS, supplies unclassified information related to Government-generated science and technology in defense, space, atomic energy, and other national programs. For further information on Clearinghouse services, write:

Clearinghouse
U.S. Department of Commerce
Springfield, Virginia 22151

UNITED STATES DEPARTMENT OF COMMERCE
Maurice H. Stans, *Secretary*
NATIONAL BUREAU OF STANDARDS • A. V. Astin, *Director*

BIBLIOGRAPHY on the HIGH TEMPERATURE CHEMISTRY AND PHYSICS of MATERIALS

January, February, March 1969

J. J. Diamond, Editor
Institute for Materials Research
National Bureau of Standards
Washington, D. C. 20234

Under the auspices of the
International Union of Pure and Applied Chemistry
Commission on High Temperatures and Refractories

U.S. National Bureau of Standards. Special Publication 315–1

Nat. Bur. Stand. (U.S.), Spec. Publ. 315–1, 81 pages (April 1969)
CODEN: XNBSA

Issued April 1969

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 — Price 75 cents

NATIONAL BUREAU OF STAN
[redacted]
FEB 27 1979
not acc.
QC100
.U57
1977
[illegible]

Library of Congress Catalog Card Number: 77–600413

Contributors

PART I. Compiled by

N. F. H. Bright, Department of Energy, Mines and Resources, Ottawa, Canada.
J. J. Diamond, National Bureau of Standards, Washington, D. C., U.S.A.
H. Flood, Norwegian Institute of Technology, Trondheim, Norway.
M. Foex, C.N.R.S., Super-Refractories Laboratory, Odeillo, France.
J. Hlavác, University of Chemical Technology, Prague, Czechoslovakia.
M. G. Hocking, Imperial College of Science and Technology, London, England.
H. Nowotny, University of Vienna, Vienna, Austria.
G. D. Rieck, Eindhoven Institute of Technology, Eindhoven, Netherlands.
A. Wittmann, Vienna Institute of Technology, Vienna, Austria.

PART II. Compiled by

L. Brewer, University of California, Berkeley, California, U.S.A.

Contents

PART I. Solids and Liquids

A. Devices for achieving temperatures above 1500 °C
B. Devices for measuring and controlling temperatures above 1500 °C
C. Devices for physical measurements at temperatures above 1000 °C
D. Thermodynamic properties, at temperatures below 1000 °C, of materials which melt above 1500 °C
E. Properties, at temperatures above 1000 °C, of materials which melt above 1500 °C
  a. Metallic materials
  b. Non-metallic materials
  c. Mixed materials
F. Properties, at temperatures above 1000 °C, of materials which melt below 1500 °C
  a. Metallic materials
  b. Non-metallic materials
  c. Mixed materials
G. Phase equilibria above 1000 °C
H. Reactions at temperatures above 1000 °C
I. Books

PART II. Gases

A. Spectroscopy of interest to high temperature chemistry
B. Reactions between gases and condensed phases

Bibliography on the High Temperature Chemistry and Physics of Materials

January, February, March 1969

J. J. Diamond, Editor

The bibliography consists of references to research involving temperatures above 1000 °C, which were noted by the Contributors during the above three-month period. Since this is intended primarily as a current-awareness bibliography, there is no cross-referencing or indexing. This issue contains about 700 references roughly grouped under fifteen subject headings.

Key words: Bibliography, high temperature; chemistry, high temperature; high temperature chemistry; materials properties; research at high temperatures; thermophysical properties.

Part I. SOLIDS AND LIQUIDS

. Devices for achieving temperatures above 1500 °C

1. New method of feeding torches for flame spraying ceramic oxides
   R. Clement (Soc. Fabrication Elements Catalyt., Fr.)
   Ind. Céram. [612], 859 (1968)

2. High temperature furnace (2400 °K) in oxidizing atmosphere
   K. Dembinski, M. Faucher and A. M. Anthony (Lab. Echanges Therm. CNRS, Meudon, Hauts de Seine, Fr.)
   C. R. Acad. Sci. 267C, 1185 (1968)

3. Temperature distribution in a Verneuil furnace in different stages of growth of Al_2O_3 and NiO crystals
   J. Deren, Z. Guzik and J. Oblqkowski
   Rocz. Chem. 43 [1], 217-21 (1969)

4. Characteristics of a ceramic heating element for a high temperature furnace
   M. Faucher, R. Rudelle and A. M. Anthony (Lab. Echanges Therm. CNRS, Meudon, Hauts de Seine, Fr.)
   C. R. Acad. Sci. 267C, 995 (1968)

5. Furnace for the study of synthesis and crystallization at high pressure
   X. Oudet, M. Bouyge and J. Loriers (CNRS, 92-Meudon-Bellevue, Fr.)
   Rev. Int. Hautes Temp. Réfract. 5, 161 (1968)

6. High temperature microfurnace for vacuum and inert atmospheres
   A. E. B. Presland and J. R. White (Chem. Eng. Dept., Imperial College, London, SW 7, England)
   J. Sci. Instr. 2, 67-68 (1969)

A. 7. Installation for obtaining molten refractory compounds
A. N. Stepanchuk and V. Ya. Shlyuko
Porosh. Met. 9 [1], 108-11 (Jan. 1969)

8. Electronic and thermal balance during fusion by electron bombardment
J. Trouvé and A. Accary (CEA, 91-Gif sur Yvette, Fr.)
Rev. Int. Hautes Temp. Réfract. 5, 197 (1968)

9. Internally heated autoclave for work up to 4.5 Kb and 1600 °C
K. A. Wilhelmi (Inorg. Phys. Chem. Inst., Univ. of Stockholm, Sweden)
J. Sci. Instr. 1, 1240-42 (1968)

B. Devices for measuring and controlling temperatures above 1500 °C

1. Heating rate controller for thermoluminescence studies
A. M. Harris, J. H. Jackson and W. N. Walker (C.E.G.B., Berkeley Nuclear Labs., Berkeley, U. K.)
J. Sci. Instr. 1, 1134-35 (1968)

2. A proportioning temperature controller using thyristors
J. S. Huebner and L. J. Bruner (Phys. Dept., Univ. of Calif., Riverside, Calif.)
J. Sci. Instr. 1, 1128-30 (1968)

3. Application of thermistors to optical pyrometry and temperature control
C. N. Owston (Mater. Dept., Coll. of Aeronautics, Cranfield, U. K.
J. Sci. Instr. 1, 1228-30 (1968)

4. Precious metal thermocouples
D. W. Rhys (Int. Nickel Ltd., London, NW 10, England)
Metals & Mater. 3, Review 132 (1969)

5. Platinum-molybdenum thermocouple
Y. Tseng, A. Robertson and E. D. Zysk (Engelhard Ind., Newark, N. J. 07105)
Engelhard Ind. Tech. Bull. 9 [3], 77-84 (1968-69)

C. Devices for physical measurements at temperatures above 1000 °C

1. Enclosure heated in controlled atmosphere for x-ray diffractometry incorporating differential thermal analysis. Examples of its use
P. Barret, N. Gérard and G. Watelle-Marion (Fac. Sci., 21-Dijon, Fr.)
Bull. Soc. Chim. France 3172 (1968)

2. Experimental bench for studying ceramic materials at high temperatures
R. A. Belyaev, Yu. I. Danilov and S. A. Furaev
Ogneupory 33 [12], 56-59 (Dec. 1968)

3. High-temperature apparatus for a study of conversions in ZrO_2-Fe_2O_3 mixtures
A. F. Bessonov and G. A. Taksis (Instrum. Inst., Sevastopol, UkSSR)
Zh. Fiz. Khim. 43 [1], 251-52 (1969)

4. High temperature furnace attachment for single crystal x-ray work
N. H. Brett (Ceram. Dept., Univ. of Sheffield, U. K.)
J. Sci. Instr. 1, 1254-55 (1968)

5. Apparatus for high-pressure high-temperature x-ray powder diffraction studies
P. J. Freud and C. B. Sclar (Battelle Memorial Inst., Columbus, Ohio 43201)
Rev. Sci. Instr. 40 [3], 434-37 (1969)

6. Gas-actuated acoustic dilatometer for thermal expansion measurements on metals
G. E. Goring (Eng. Sci. Dept., Trinity Univ., San Antonio, Tex.)
J. Sci. Instr. 2, 137-42 (1969)

7. A differential scanning calorimeter with radiant heating and control
R. A. W. Hill and R. P. Slessor (Res. Dept., I.C.I. Ltd., Steventson, Scotland)
Trans. Faraday Soc. 65, 340-48 (1969)

8. Enhancement of the diffusion limited vaporization rates by condensation within the thermal boundary layer
A. W. D. Hills and J. Szekely (Met. Dept., Imperial College, London, SW 7, England)
Int. J. Heat Mass Transfer 12 [1], 111-14 (1969)

9. Hot-microhardness test equipment
J. L. Kamphouse, J. C. Blake and J. Moteff (G. E. Nucl. Systems Programs, Cincinnati, Ohio 45215)
Rev. Sci. Instr. 40 [2], 321-25 (1969)

10. Determination of enthalpy changes for phase transformations above 2000 °K
A. I. Kaznoff and L. N. Grossman (G. E. Nucl. Tech. Dept., Pleasanton, Calif.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 25-39

C. 11. Determination of the position of boundaries of single-phase regions on isothermal sections of ternary systems
G. M. Kuznetsov, M. V. Zakharov, V. I. Kucherov and V. N. Fedorov
Zavod. Lab. 34 [12], 1480-81 (1968)

12. Equipment for determining the high temperature properties of basic refractories
T. W. Lythe and G. C. Padgett (Steetley Organisation Res. Dept., Worksop, U. K.)
Trans. Brit. Ceram. Soc. 68, 33-43 (1969)

13. Electrochemical measurements in molten oxides and the role of free energy data in activity calculations
H. S. Ray (Indian Inst. Tech., Met. Eng. Dept., Kanpur, India)
Indian J. Chem. 6 [12], 732-35 (1968)

14. A simple technique for sealing Mo or Pt to Al_2O_3 with a glass ceramic seal
P. S. Rogers, J. Butler and B. C. H. Steele (Nuffield Res. Group, Met. Dept., Imperial College, London, SW 7)
J. Sci. Instr. 2, 102 (1969)

15. Measurement of density and thermal expansion of glasses at high temperatures
L. Šašek (Inst. Chem. Tech., Prague, Czech.)
Silikáty 12 [1], 53-58 (1968)

16. The influence of furnace atmosphere on the hot crushing strength of refractories
H. W. Schwiete and H. Wierich (Inst. Gesteinshüttenk., Rhein.-Westfäl. T. H., Aachen, Germ.)
Ber. Duet. Keram. Ges. 45, 483-85 (1968)

17. Determination of the composition of vapor in mass-spectrum thermodynamic investigations
L. N. Sidorov (Lomonosov State Univ., Moscow)
Dokl. Akad. Nauk SSSR 184 [4], 889-92 (1969)

18. Melting point and phase diagram determination with a new precision high-temperature microscope technique
A. Stingele (CCR Euratom, Petten, Netherlands)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 10-24

19. Methods for investigating external friction parameters of refractory materials at high temperature in vacuo
Ya. G. Tkachenko
Porosh. Met. 8 [12], 82-87 (Dec. 1968)

20. A new cell for electrochemical studies at elevated temperatures: design and properties of a cell involving a combination of ThO_2-Y_2O_3 and ZrO_2-CaO electrolytes
Yu. D. Tretyakov (Moscow State Univ.) and A. Muan (Geochem. & Miner. Dept., Pa. State Univ., Univ. Park, Pa.)
J. Electrochem. Soc. 116 [3], 331-34 (1969)

21. Study of some of the parameters affecting Knudsen effusion. V. Free-path considerations in small Knudsen cells
J. W. Ward (Los Alamos Sci. Lab., Los Alamos, N. M.)
J. Chem. Phys. 49 [11], 5129-32 (1968)

Thermodynamic properties, at temperatures below 1000 °C, of materials which melt above 1500 °C

1. Thermodynamic properties of non-stoichiometric V and Ti carbides
V. I. Alekseev, A. S. Panov, E. V. Fiveiskii and L. A. Shvartsman (State Com. Utiliz. Atomic Energy, Moscow)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 435-47

2. Calculation of interchange energy and configurational and excess entropies in transition metal carbide solutions
R. A. Andrievskii, V. N. Zagryazkin and R. A. Lyutikov (Phys.-Energet. Inst., Obninsk, SSSR)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 449-56

3. Thermodynamics and thermochemistry of cation exchange in zeolite Y
R. M. Barrer, J. A. Davies and L. V. C. Rees (Chem. Dept., Imperial College, London SW 7)
J. Inorg. Nucl. Chem. 30, 3333-49 (1968)

4. Thermodynamic properties of PuN by galvanostatic potential determination
G. M. Campbell (Los Alamos Sci. Lab., Los Alamos, N. M. 87544)
J. Phys. Chem. 73 [2], 350-55 (1969)

5. Thermodynamic properties of Pu compounds by emf techniques
G. M. Campbell, L. J. Mullins and J. A. Leary (Los Alamos Sci. Lab., Los Alamos, N. M.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 75-88

6. Thermodynamic properties of uranium compounds. IV. Low-temperature heat capacities and entropies of US-UP solid solutions
J. F. Counsell, J. F. Martin (Nat. Phys. Lab., Teddington, Middx.), R. M. Dell and A. R. Junkison (AERE, Harwell, Berks., Engl.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 385-94

7. The specific heat of ZnTe within 56-300 °K. Entropy and enthalpy of ZnTe, CdS, CdSe and CdTe
A. F. Demidenko and A. K. Maltsev
Izv. Akad. Nauk SSSR, Neorg. Mater. 5 [1], 158-60 (1969)

D. 8. Use of quantitative method of differential thermal analysis for the determination of the heats of formation of U_3P_4 and UP_2
A. Dogu, C. Val and A. Accary (Dépt. Mét., Service Chim. Solides, Gif-sur-Yvette, Fr.)
J. Nucl. Mater. 28 [3], 271-79 (1968)

9. Low temperature specific heat of H.C.P. Mo-Ru and Mo-Rh alloys
J. C. Ho and R. Viswanathan (Battelle Mem. Inst., Columbus, Ohio)
J. Phys. Chem. Solids 30, 169-73 (1969)

10. Thermophysical properties of the lanthanide oxides. IV. Heat capacities and thermodynamic properties of thulium (III) and lutetium (III) oxides. Electronic energy levels of several lanthanide (III) ions
B. H. Justice, E. F. Westrum, Jr., E. Chang and R. Radebaugh (Chem. Dept., Univ. of Michigan, Ann Arbor, Mich. 48104)
J. Phys. Chem. 73 [2], 333-40 (1969)

11. The thermochemistry of some uranium compounds
P. A. G. O'Hare, J. L. Settle, H. M. Feder and W. N. Hubbard (Argonne Nat. Lab., Argonne, Ill.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 265-78

12. Heat capacity at low temperatures, absolute entropy and enthalpy of molybdenum carbide
I. E. Paukov, P. G. Strelkov and V. S. Filatkina
Zh. Fiz. Khim. 42 [11], 2962-63 (1968)

13. Entropy and heat capacity of uranium borides
L. G. Podobeda, V. A. Malykh and A. V. Frolov (State Comm. Utiliz. Atomic Energy, Moscow)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 745-64

14. Equilibrium measurements in the Mo-C-H_2 system
A. Solbakken and P. H. Emmett (Chem. Dept., Johns Hopkins Univ., Baltimore, Md. 21218)
J. Am. Chem. Soc. 91 [1], 31-34 (1969)

15. Defect contribution to the excess enthalpy of UO_2. Calculation of the Frenkel energy
R. Szwarc (G. E. Nuclear Systems Programs, Cincinnati, Ohio)
J. Phys. Chem. Solids 30, 705-11 (1969)

E. Properties, at temperatures above 1000 °C, of materials which melt above 1500 °C

a. Metallic materials

1. The change in work function of the (100) surface of W as O_2, N_2, CO_2 and H_2 are adsorbed
A. E. Abey (Adv. Mater. R/D Lab., Pratt & Whitney, Middletown, Conn
J. Appl. Phys. 40 [1], 284-87 (1969)

2. Purification of Fe and Zr by "zone transformation" in high purity atmosphere
P. Ailloud and J. P. Langeron (C.E.C.M., Vitry, Val de Marne, Fr.)
Mém. Sci. Rev. Mét. 65 [15], 73 (June 1968)

3. Thermodynamics of liquid Fe-Co and Ni-Pt alloys
C. B. Alcock and A. Kubik (Met. Dept., Imperial College, London SW 7)
Trans. I.M.M. 77, C220-24 (1968)

4. The purification of Cr by zone refining
J. Bigot (C.E.C.M., Vitry, Val de Marne, Fr.)
Mém. Sci. Rev. Mét. 65 [15], 61 (June 1968)

5. Non-stoichiometry of tantalum carbide and uranium monocarbide
M. Hoch (Univ. Cincinnati, Ohio), E. F. Juenke and L. H. Sjodahl (G. E. Nucl. Mater. & Propul. Lab., Cincinnati, Ohio)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 497-508

6. Densification mechanisms in high-pressure hot-pressing of HfB_2
D. Kalish and E. V. Clougherty (ManLabs, Inc., Cambridge, Mass. 02139)
J. Am. Ceram. Soc. 52 [1], 26-30 (1969)

7. Strength, fracture mode, and thermal stress resistance of HfB_2 and ZrB_2
D. Kalish, E. V. Clougherty and K. Kreder (ManLabs, Inc., Cambridge, Mass. 02139)
J. Am. Ceram. Soc. 52 [1], 30-36 (1969)

8. Investigations on composite materials of the group VIa elements
R. Kieffer, H. Bach and W. Tauscher (Inst. Chem. Tech. Anorg. Stoffe, T. H. Wien, Austria)
Planseeber. Pulvermet. 16, 169-77 (1968)

9. Solubility of N_2 in liquid Nb and Mo
L. N. Kozina, A. V. Reviakin and A. M. Samarin
Dokl. Akad. Nauk SSSR 184 [2], 397-99 (1969)

10. Review of alloy thermodynamics
O. Kubaschewski (Nat. Phys. Lab., Teddington, Middx., Engl.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 685-96

11. Thermo-magnetic measurements of the Pt metals containing Cr
A. Kussmann, K. Müller and E. Raub (Forschungsinst. Edelmetal. Metallchem., Schwäbisch-Gmünd, Germ.)
Z. Metallk. 59, 859-63 (1968)

12. Solubility of H_2 in W at high temperatures and pressures
A. A. Mazaev, R. G. Avarbe and Yu. N. Vilk
Izv. Akad. Nauk SSSR, Metal. [6], 223-26 (Nov.-Dec. 1968)

Ea. 13. Thermal expansion of UC and U_2C_3 at high temperatures
R. Mendez-Penalosa and R. E. Taylor
An. Fis. 64 [9-10], 287-302 (1968)

14. Effect of pressure on the solubility of H_2 in molten alloys of Fe with Ti
A. N. Morozov and Yu. A. Daniovich
Izv. Akad. Nauk SSSR, Metal. [6], 220-22 (Nov.-Dec. 1968)

15. Mechanical relaxations in polycrystalline Mo, Ta and Ir at high temperatures and low frequencies
M. J. Murray (Surface Phys., Cavendish Lab., Univ. of Cambridge, U. K.)
J. Less-Common Metals 15 [4], 425-35 (1968)

16. High temperature dehydroxylation of apatitic phosphates
T. Negas and R. S. Roth (Nat. Bur. Stds., Washington, D. C. 2023
J. Res. Nat. Bur. Std. 72A [6], 783-87 (1968)

17. Thermodynamics of the plutonium carbides
W. M. Olson and R. N. R. Mulford (Los Alamos Sci. Lab., Los Alamos, N. M.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 467-78

18. Diffusion of Cr and Fe in zircaloy-2
B. M. Pande, M. C. Naik and R. P. Agarwala (Bhabbha At. Res. Ctr. Trombay, Bombay-74, India)
J. Nucl. Mater. 28 [3], 324-32 (1968)

19. Mechanism of volatilization and oxidation of Pt, Pd, and their alloys
E. I. Rytvin and L. P. Ulybysheva
Izv. Akad. Nauk SSSR, Metal. [1], 247-52 (Jan.-Feb. 1969)

20. Rheological properties of Pt at high temperatures
V. O. Shestopal
Fiz. Metal. Metallov. 26 [6], 1127-29 (1968)

21. Equilibrium dissociation pressures and performance of pulsed U-ZrH fuels at elevated temperatures
M. T. Simnad and J. B. Dee (Gen. Atom. Lab. Pure Appl. Sci., San Diego, Calif.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 513-26

22. The creep-rupture properties of some refractory metal alloys. I. Effect of heat treatment on the properties of the Nb-base alloy D-43
R. L. Stephenson (Oak Ridge Nat. Lab., Oak Ridge, Tenn. 37831)
J. Less-Common Metals 15 [4], 395-402 (1968)

23. The creep-rupture properties of some refractory metal alloys. II. The properties of the Nb-base alloys FS-85 and Cb-752 and their response to heat treatment
R. L. Stephenson (Oak Ridge Nat. Lab., Oak Ridge, Tenn. 37831)
J. Less-Common Metals 15 [4], 403-14 (1968)

24. The creep-rupture properties of some refractory metal alloys. III. Comparative mechanical behavior of some Ta-base alloys
R. L. Stephenson and H. E. McCoy, Jr. (Oak Ridge Nat. Lab., Oak Ridge, Tenn. 37831)
J. Less-Common Metals 15 [4], 415-24 (1968)

25. Application of electromotive force method for component activity studies in melts of the Fe-Ge-C system
I. N. Tanutrov, N. A. Vatolin, A. I. Okunev and O. A. Esin (Met. Inst., Sverdlovsk, USSR)
Zh. Fiz. Khim. 42 [11], 2805-09 (1968)

26. The surface precipitation of carbides during the cooling of Mo and W
J. P. Touboul and J. P. Langeron (Ctr. Etudes Chim. Mét., 94-Vitry sur Seine, Fr.)
C. R. Acad. Sci. 267C, 1285 (1968)

27. Microstructural development in liquid-phase sintering of alloys, especially NbC/Co
R. Warren (Lab. for Hard Metal Res., Stora, Soderfors, Sweden)
J. Mater. Sci. 3, 471-85 (1968)

. Non-metallic materials

1. Apparent optical absorption index of molten BeO
J. M. Adams
J. Quant. Spectrosc. Radiat. Transfer 9 [2], 237-44 (1969)

2. Rotational analysis of the blue-green system of scandium oxide
A. Adams, W. Klemperer and T. M. Dunn (Chem. Dept., Harvard Univ., Cambridge, Mass.)
Can. J. Phys. 46 [19], 2213-20 (1968)

3. A note of the occurrence of exaggerate grain growth in sintered bodies
I. Amato (FIAT, Sez. Energia Nucl., Torino, Italy) and R. L. Colombo (Ctr. Sperim. Met., Roma)
J. Nucl. Mater. 28 [1], 120-23 (1968)

4. Tensile strength of sapphire whiskers at high temperatures
P. D. Bayer and R. E. Cooper (Met. Dept., A.W.R.E., Aldermaston, U. K.)
J. Mater. Sci. 4, 15-20 (1969)

Eb.

5. The effect of temperature cycling, in oxidizing and reducing atmospheres, on the structure of basic bricks
T. S. Busby and M. Carter (Brit. Glass Ind. Res. Assn., Sheffield 10, U. K.)
Glass Technol. 9, 154-63 (1968)

6. The yield and flow of single crystals of UO_2
J. F. Byron (Met. Dept., Univ. of Liverpool, U. K.)
J. Nucl. Mater. 28 [1], 110-14 (1968)

7. Newer forms of carbon and their uses
R. W. Cahn and B. Harris (Mater. Sci. Div., Sch. of Appl. Sci., Univ. of Sussex, U. K.)
Nature 221, 132-41 (1969)

8. Thermochemistry of UOS; evaporation of US-UO_2 mixtures; on the attainment of equilibrium in Knudsen cells
E. D. Cater (Chem. Dept., Univ. of Iowa, Iowa City, Iowa 52240), E. G. Rauh and R. J. Thorn (Argonne Nat. Lab., Argonne, Ill. 60439)
J. Chem. Phys. 49 [12], 5244-53 (1968)

9. Effect of O_2 pressure on the freezing points of some transition element oxides
J. P. Coutures and M. Foex (Lab. Ultra-Réfract., 66-Montlouis, Fr.)
C. R. Acad. Sci. 267C, 1577 (1968)

10. Conductivity of CoO and NiO in highly enriched O_2 atmospheres
J. T. Cox and C. M. Quinn (Inorg. Chem. Lab., The Univ., Oxford, U. K.)
J. Mater. Sci. 4, 33-38 (1969)

11. Dissociation energy of the molecule TiO(g) and the thermodynamics of the system Ti-O
J. Drowart, P. Coppens and S. Smoes (Lab. Molec. Phys. Chem., Free Univ. of Brussels, Brussels 5, Belg.)
J. Chem. Phys. 50 [2], 1046-48 (1969)

12. Sintering parameters for various UO_2 powders
C. Ferro, C. Majani and I. Stamenkovič (Ctr. Studi Nucl. Casaccia, C.N.E.N., Rome, Italy)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 529-34

13. Direct measurement at 1100°C of the partial molar mixing enthalpie of oxygen in UO_{2+x} close to UO_2, using a Calvet high-temperature microcalorimeter
P. Gerdanian and M. Dode (Lab. Chim. Thermodyn., Fac. Sci., Orsay, Fr.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 41-54

14. Dissociation energy of TiO(g) and the high-temperature vaporization and thermodynamics of the titanium oxides. V
P. W. Gilles and P. J. Hampson (Chem. Dept., Univ. of Kansas, Lawrence, Kans. 66044) and P. G. Wahlbeck (Chem. Dept., Illinois Inst. Tech., Chicago, Ill. 60616)
J. Chem. Phys. 50 [2], 1048-49 (1969)

15. Effect of substrate on deposition of evaporated C
D. B. Fischbach (Jet Propulsion Lab., Calif. Inst. Tech., Pasadena, Calif.)
J. Mater. Sci. 3, 559-61 (1968)

16. Modulus of rupture of high alumina refractories at high temperatures and their performance in arc-furnace roofs
E. I. Greaves (United Steel Co. R/D Dept., Moorgate, Rotherham, U. K.)
Trans. Brit. Ceram. Soc. 68, 15-20 (1969)

17. The vaporization thermodynamics of EuO
J. M. Haschke and H. A. Eick (Chem. Dept., Michigan State Univ., E. Lansing, Mich. 48823)
J. Phys. Chem. 73 [2], 374-77 (1969)

18. Viscosity of vitreous silica in the transformation range
J. Hlaváč and T. K. Šen (Inst. Chem. Tech., Prague, Czech.)
Silikáty 12 [3], 213-20 (1968)

19. Actinide carbides - a review of thermodynamic properties
C. E. Holley, Jr. and E. K. Storms (Los Alamos Sci. Lab., Los Alamos, N. M.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 397-426

20. Thermal annealing of natural semi-conducting diamond
S. M. Horszowski (Diamond Res. Lab., Johannesburg)
J. Phys. Chem. Solids 30, 669-75 (1969)

21. Sublimation studies and preparation of CdO single crystals
P. Höschl, Č. Koňák and V. Prosser (Phys. Inst., Charles Univ., Prague, Czech.)
Mater. Res. Bull. 4 [2], 87-93 (1969)

22. Synthesis and study of yttrialite
J. Ito and H. Johnson (Nat. Bur. Stds., Washington, D. C. 20234)
Am. Mineralogist 53 [11-12], 1940-52 (1968)

23. Mechanical properties of basic refractories at high temperatures
B. Jackson and J. Laming
Trans. Brit. Ceram. Soc. 68, 21-28 (1969)

Eb. 24. Effect of calcining conditions on some physical properties of calcined bone
A. Jobling (B.G.C. Ltd., Luton, U. K.)
Trans. Brit. Ceram. Soc. 67, 511-13 (1969)

25. Thermodynamics of the sublimation and dissociation of ZnO
E. K. Kazenas, D. M. Chizhikov and Yu. V. Tsvetkov
Izv. Akad. Nauk SSSR, Metal. [1], 150-53 (Jan.-Feb. 1969)

26. Thermodynamic properties of the oxides of Cu and Ni
H. H. Kellogg (Miner. Eng. Div., School of Mines, Columbia Univ., New York, N. Y. 10027)
J. Chem. Eng. Data. 14 [1], 41-44 (1969)

27. Experimental thermochemistry at high temperatures
O. Kubaschewski (Nat. Phys. Lab., Teddington, Middlesex, Engl.)
Naturwiss. 55, 525-33 (1968)

28. Cation self-diffusion in single crystal CaO
V. Kumar and Y. P. Gupta (Mater. Sci. Dept., Univ. of Southern Calif., Los Angeles, Calif.)
J. Phys. Chem. Solids 30, 677-85 (1969)

29. Immiscibility and crystallization in Al_2O_3-SiO_2 glasses
J. F. MacDowell and G. H. Beall (R/D Labs., Corning Glass Works, Corning, N. Y. 14830)
J. Am. Ceram. Soc. 52 [1], 17-25 (1969)

30. High temperature thermodynamic properties of UC_2
A. C. Macleod (Morganite R/D Ltd., Northfields Labs., London, SW 18)
J. Inorg. Nucl. Chem. 31, 715-25 (1969)

31. Products of dolomite and very refractory fibres
F. Maistre (Soc. Gén. Produits Réfract., Fr.)
Ind. Céram. [612], 832 (1968)

32. Thermodynamic stability of alkaline earth oxides and aluminates in flame spectroscopy
R. E. Mansell (Dow Chem. Co., Chem. Phys. Res. Lab., Midland, Mich. 48640)
Appl. Spectry. 22 [6], 790 (1968)

33. Evaporation of hypostoichiometric PuO_2 from 2070° to 2380 °K
D. R. Messier (Argonne Nat. Lab., Argonne, Ill. 60439)
J. Am. Ceram. Soc. 51 [12], 710-13 (1968)

34. Lattice spacings of periclase-chromite solid solutions
T. S. Montgomery (Ceram. Eng. Dept., Univ. of Missouri, Rolla, Mo. 65401)
J. Am. Ceram. Soc. 52 [1], 59-60 (1969)

35. Dilatometry, a thermal testing method in ceramic research and industry
J. Moravek
Sprechsaal 101, 781-93 (1968)

36. Disorder in cubic U_2N_3
F. Müller and H. Ragoss (Kernforschungsanlage Jülich, Germ.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 257-64

37. Dependence of flow stress on nonstoichiometry in O_2-rich UO_2 at high temperatures
J. S. Nadeau (G. E. R/D Ctr., Schenectady, N. Y. 12301)
J. Am. Ceram. Soc. 52 [1], 1-7 (1969)

38. Stability of UC-UN solid solutions in the presence of free C
A. Naoumidis and H.-J. Stöcker (Kernforschungsanlage Jülich des Landes Nordrhein-Westf. e. V., Germ.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 287-300

39. High-temperature heat content and heat capacity of UO_2 and UO_2-PuO_2 solid solutions
A. E. Ogard and J. A. Leary (Los Alamos Sci. Lab., Los Alamos, N. M.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 651-65

40. Evaporation behaviour and high-temperature thermal analysis of substoichiometric plutonium oxide for $1.51 < O/Pu < 2.00$
R. W. Ohse and C. Ciani (Europ. Inst. Transuranium Elements, Euratom, Karlsruhe, Germ.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 545-57

41. Effect of solid solution formation on the kinetics of creep of high refractory oxides during sintering
I. G. Orlova
Porosh. Met. 9 [1], 82-91 (Jan. 1969)

42. Thermodynamic studies using mass spectrometry on the U-O system
A. Pattoret, J. Drowart and S. Smoes (Lab. Chim. Phys. Molec., Univ. Libre de Bruxxelles, Belgium)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 613-34

43. Effect of composition and microstructure on the deformation of periclase-silicate mixtures at high temperatures
G. D. Pickering and W. F. Ford (Ceram. Dept., Univ. of Sheffield, U. K.)
Trans. Brit. Ceram. Soc. 68, 9-14 (1969)

44. Effect of the physical characteristics of uranium oxide on its behavior on fritting
H. Potdevin
Ind. Chim. Belge 32, Special No. (Part 1), 771-74 (1967)

Eb. 45. Some thermodynamic aspects of (U,Pu)O_2 solid solutions and their use as nuclear fuels
M. H. Rand and T. L. Markin (AERE, Harwell, Didcot, Berks., Engl.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 637-50

46. Mixed conduction in solid oxide electrolytes
R. A. Rapp (Met. Eng. Dept., Ohio State Univ., Columbus, Ohio)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 559-84

47. Cation self-diffusion in UO_2
D. K. Reimann and T. S. Lundy (Oak Ridge Nat. Lab., Oak Ridge, Tenn. 37830)
J. Nucl. Mater. 28 [2], 218-19 (1968)

48. Effect of boric oxide on some properties of magnesia
H. M. Richardson, M. Lester, F. T. Palin and P. T. A. Hodson (Bri Ceram. Res. Assn., Penkhull, Stoke-on-Trent, U. K.)
Trans. Brit. Ceram. Soc. 68, 29-31 (1969)

49. Products high in alumina and special very dense products
A. Roussey (Soc. Gén. Produits Réfract., Fr.)
Ind. Céram. [612], 829 (1968)

50. Thermal expansion and volume stability of baddeleyite-corundum refractories
J. Růžek (Inst. Chem. Tech., Prague, Czech.)
Silikáty 12 [3], 31-41 (1968)

51. Vaporization and thermodynamic properties of silicon nitride
E. A. Ryklis, A. S. Bolgar and V. V. Fesenko
Porosh. Met. 9 [1], 92-96 (Jan. 1969)

52. The stable composition range and decomposition pressure of UC-UN solid solution
T. Sano, M. Katsura and H. Kai (Fac. Eng., Osaka, Univ., Osaka, Japan)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 301-15

53. Activity measurements in NiO-MnO solid solutions
S. Seetharaman and K. P. Abraham (Met. Dept., Indian Inst. Sci., Bangalore)
Trans. I.M.M. 77, C209-11 (1968)

54. Effect of La_2O_3 on the high temperature vaporization of Nb, Ta, and Ti oxides
M. Segui and F. Trombe (Lab. Energie Solaire, Montlouis, Pyrénées Orientales, Fr.)
C. R. Acad. Sci. 267C, 1039 (1968)

55. Evaporation of TiO_2
G. A. Semenov
Izv. Akad. Nauk SSSR, Neorg. Mater. 5 [1], 67-73 (1969)

56. Thermal investigation of evaporation of Ga and In oxides
S. A. Shchukarev, G. A. Semenev and I. A. Ratkovskii
Zh. Neorg. Khim. 14 [1], 3-10 (1969)

57. Initial solid state sintering of hematite
J. S. Smart, III (Northwestern Univ., 1968)
Dissertation Abstr. 29B [7], 2463 (1968-69)

58. A consistent set of thermodynamic values for plutonium mononitride
K. E. Spear and J. M. Leitnaker (Oak Ridge Nat. Lab., Oak Ridge, Tenn. 37830)
J. Am. Ceram. Soc. 51 [12], 706-09 (1968)

59. Testing of the mechano-thermal behavior of magnesite bricks at high temperatures
A. Starzacher
Radex Rundschau 285-94 (1968)

60. Mass spectrometric investigation of the vaporization, thermodynamics and dissociation energies of LaS, ScS, YS, ZrS, and UO
R. P. Steiger (Univ. of Iowa, 1968)
Dissertation Abstr. 29B [6], 2009 (1968-69)

61. Sintering in ferric and chromic oxides
H. E. N. Stone (Met. Dept., The Univ., Guildford, U. K.)
J. Mater. Sci. 4, 166-69 (1969)

62. High-temperature thermodynamic properties of oxygen-deficient UO_2
M. Tetenbaum and P. D. Hunt (Argonne Nat. Lab., Argonne, Ill. 60439)
J. Chem. Phys. 49 [11], 4739-44 (1968)

63. Growth and microstructure of Mo oxide crystals
F. W. Vahldiek (Air Force Mater. Lab., Dayton, Ohio 45433)
J. Less-Common Metals 16 [4], 351-59 (1968)

64. The solubility of water vapor in ZrO_2-Y_2O_3 solid solutions
C. Wagner (Max Planck Inst. Phys. Chem., Göttingen, Germ.)
Ber. Bunsenges. Phys. Chem. 72, 778-84 (1968)

65. The system Al-O
H. Yanagida and F. A. Kröger (Mater. Sci. Dept., Univ. of Southern California, Los Angeles, Calif. 90007)
J. Am. Ceram. Soc. 51 [12], 700-06 (1968)

. Mixed materials

1. Thermophysical properties of metal ceramics based on Al_2O_3 in the temperature range 473-1673 °K
V. A. Osipova and M. I. Pak
At. Energ. 26 [1], 72-73 (1969)

F. Properties, at temperatures above 1000 °C, of materials which melt below 1500 °C

a. Metallic materials

1. Micro-nonhomogeneity of melts in the Mn-Si system
   Yu. N. Akshentsev, B. A. Baum and P. V. Geld
   Zh. Prikl. Khim. 42 [1], 68-72 (1969)

2. Temperature and composition effect on density and surface of iron melts with aluminum
   G. D. Ayushina, E. S. Levin and P. V. Geld (Kirov Polytech. Inst., Sverdlovsk, USSR)
   Zh. Fiz. Khim. 42 [11], 2799-2804 (1968)

3. Relations between the properties of steels and alloys in solid and molten states
   B. A. Baum and G. V. Tyagunov
   Izv. Akad. Nauk SSSR, Metal. [1], 229-33 (Jan.-Feb. 1969)

4. Kinematic viscosity of melts of the Co-Si and Ni-Si systems
   P. V. Baum Bakocherov
   Izv. Vyssh. Ucheb. Zaved., Tsvet. Met. 11 [6], 84-91 (Nov.-Dec. 1968)

5. Determination of the thermodynamic activity of Fe, Ni, Al and Cu in dilute solution in liquid Be
   G. Bienvenu, C. Potard, B. Schaub and P. Desre (C.E.N., Grenoble, Fr.)
   Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 777-87

6. Diffusion and solubility of Pu in Ni
   J. J. Blechet, A. van Craeynest and D. Calais (S. M. Pu-CEN-FAR, Fontenay-aux-Roses 92, Fr.)
   J. Nucl. Mater. 28 [2], 177-84 (1968)

7. Surface tension of Ag, Tl, Pb and Bi at high temperature
   J. Bohdansky and H. E. J. Schins (Euratom Res. Ctr., Ispra (Varese Italy)
   J. Inorg. Nucl. Chem. 30, 3362-65 (1968)

8. Magnetic properties and internal dampening of molten Fe
   F. Dabois
   Colloq. Int., Ctr. Nat. Rech. Sci. [167], 141-49 (1968)

9. Susceptibility of molten alloys of Pd with Co, Mn, Ni and Cu
   E. L. Dubinin, O. A. Esin and N. A. Vatolin
   Izv. Akad. Nauk SSSR, Metal. [6], 171-74 (Nov.-Dec. 1968)

10. Kinetics of the dissolution of N_2 in Ni-based melts
    V. I. Fedorchenko, V. V. Averin and A. M. Samarin
    Izv. Akad. Nauk SSSR, Metal. [1], 102-11 (Jan.-Feb. 1969)

11. Measurement of the density of Ni-Si, Ni-Cr, and Ni-Al melts with the aid of photoelectronic registration of drop size
    E. C. Filippov
    Izv. Vyssh. Ucheb. Zaved., Chern. Met. 11 [11], 11-15 (Nov. 1968)

12. Determination of temperature limits of short range order structural changes in Fe-Cu and Fe-Mn melts
    E. S. Filippov and A. N. Krestovnikov
    Izv. Vyssh. Ucheb. Zaved., Chern. Met. 11 [10], 15-17 (Oct. 1968)

13. The behaviour of Si_2, WSi_2, $TaSi_2$ in vacuum at high temperatures
    V. E. Ivanov, E. P. Nechiporenko, V. M. Krivoruchko, A. P. Patokin and N. S. Poltavtsev
    Izv. Akad. Nauk SSSR, Neorg. Mater. 5 [1], 8-14 (1969)

14. Mass-spectrometric studies of the gaseous systems Au-Ni, Au-Co, and Au-Fe, and dissociation energies of AuNi, AuCo, and AuFe
    A. Kant (Army Mater. & Mech. Res. Ctr., Watertown, Mass. 02172)
    J. Chem. Phys. 49 [11], 5144-46 (1968)

15. Saturated vapor pressure of aluminum
    V. K. Kulifeyev and G. A. Ukhlinov (Moscow Inst. Steel & Alloys)
    Izv. Vyssh. Ucheb. Zaved., Tsvet. Met. 11 [6], 43-45 (Nov.-Dec. 1968)

16. Surface tension and structural transformations in Fe-C melts
    A. A. Kupriyanov and S. I. Filippov
    Izv. Vyssh. Ucheb. Zaved., Chern. Met. 11 [11], 16-20 (Nov. 1968)

17. Surface tension and density of Fe-C-Si alloys and foundry cast irons
    L. I. Levi, S. A. Gladyshev and E. F. Lashin
    Izv. Vyssh. Ucheb. Zaved., Chern. Met. 11 [11], 126-30 (Nov. 1968)

18. Thermal and electric properties of highest Mn silicide from 4.2 to 1300 °K and its structure
    E. N. Nikitin, V. I. Tarasov and P. V. Tamarin (Acad. Sci., Inst. Semicond., Leningrad, USSR)
    Fiz. Tverd. Tela 11 [1], 234-35 (1969)

19. Mass spectrometric determination of the heat of sublimation of U
    A. Pattoret, J. Drowart and S. Smoes (Lab. Chim. Phys. Moléc., Univ. Libre de Bruxelles, Belg.)
    Trans. Faraday Soc. 65 [553], 98-112 (1969)

20. Distribution of Fe, Cu and Mo impurities between the solid and liquid phases in Al-Be alloys
    C. Potard, G. Bienvenu and B. Schaub (C.E.N., Grenoble, Fr.)
    Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 809-25

Fa. 21. Fe-Si melts studied with a high temperature calorimeter
A. I. Tripolitov, V. T. Loginov, A. Ya. Stomakhin and A. F. Filippo
Izv. Vyssh. Ucheb. Zaved., Chern. Met. 11 [11], 53-59 (Nov. 1968)

b. Non-metallic materials

1. Effects of atmosphere and minor constituents on the surface tension of glass melts
S. Akhtar and M. Cable (Glass Tech. Dept., Univ. of Sheffield, U. K.)
Glass Technol. 9, 145-51 (1968)

2. Investigation of the thermo-emf of alloys of the Cu_2Se-Cu_2Te system in the liquid state
S. A. Bezekovich, V. M. Glazov and A. N. Krestovnikov (Moscow Inst. Steel and Alloys)
Izv. Vyssh. Ucheb. Zaved., Tsvet. Met. 11 [6], 16-20 (Nov.-Dec. 1968)

3. Electrical conductivity of molten Li_2O-RO-SiO_2 glasses
E. A. Erznkyan and K. A. Kostanyan (Chem. Sci. Res. Inst., Yerevan, ArSSR)
Arm. Khim. Zh. 21 [9], 759-66 (1968)

4. The cooling of glass fibres
L. R. Glicksman (Mech. Eng. Dept., Mass. Inst. Tech., Cambridge, Mass.)
Glass Technol. 9, 131-38 (1968)

5. Association in mixed alkali halide vapors
J. Guion, D. Hengstenberg and M. Blander (Sci. Ctr., N. Amer. Rockwell Co., Thousand Oaks, Calif. 91360)
J. Phys. Chem. 72 [13], 4620-27 (1968)

6. PbO vapour pressure in the $Pb(Ti_{1-x}Zr_x)O_3$ system
K. H. Härdtl and H. Rau (Phillips Zentrallab GmbH, Aachen, Germ.)
Solid State Commun. 7 [1], 41-46 (1969)

7. Seebeck coefficient and electrical conductivity measurements on doped and undoped wüstite
W. J. Hillegas, Jr. (Northwestern Univ., 1968)
Dissertation Abstr. 29B [7], 2590 (1968-69)

8. Mass-spectrometric determination of composition and vapor pressure of MoO_3
E. K. Kazenas and Yu. V. Tsvetkov (Acad. Sci., Baikov Met. Inst., Moscow)
Zh. Neorg. Khim. 14 [1], 11-13 (1969)

9. Relation between glass fibre tensile strength, drawing temperature and fibre diameter
K. L. Loewenstein and J. Dowd (Deeglas Fibres Ltd., Camberley, U.K.)
Glass Technol. 9, 164-71 (1968)

10. Study of the viscosity and structure of glasses in the $ZnO-La_2O_3-B_2O_3$ system
S. V. Nemilov and L. K. Shmatok
Izv. Akad. Nauk SSSR, Neorg. Mater. 4 [12], 2166-70 (1968)

11. Henry's law constant measurements for fission products absorbed in silicates
J. H. Norman, P. Winchell, H. G. Staley, M. Tagami and M. Hiatt (Gen. Atom. Lab. Pure Appl. Sci., San Diego, Calif.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 209-25

12. Microstructure control in nickel ferrous ferrite
H. M. O'Bryan, Jr., P. K. Gallagher, F. R. Monforte and F. Schrey (Bell Tel. Labs., Murray Hill, N. J.)
Am. Ceram. Soc. Bull. 48 [2], 203-08 (1969)

13. High-quartz solid solution phases from thermally crystallized glasses of compositions $(Li_2O,MgO).Al_2O_3.nSiO_2$
S. Ray and G. M. Muchow (Tech. Ctr., Owens-Illinois, Inc., Toledo, Ohio 43601)
J. Am. Ceram. Soc. 51 [12], 678-82 (1968)

14. Fusion and vaporization characteristics of $ZrTe_3O_8$
C. A. Sorrell (Ceram. Eng. Dept., Univ. of Illinois, Urbana, Ill. 61801)
J. Am. Ceram. Soc. 51 [12], 674-77 (1968)

15. Technique for improving the homogeneity of laboratory glass melts
J. F. Stirling and R. G. Miselbach (Phys. Dept., Tech. College, Sunderland, U. K.)
Glass Technol. 9, 176-78 (1968)

Mixed materials

1. Wetting of alumina by molten Al, etc.
J. A. Champion, B. J. Keene and J. M. Sillwood (Nat. Phys. Lab., Teddington, U. K.)
J. Mater. Sci. 4, 39-49 (1969)

2. Effect of cooling rate on morphology of sulphide inclusions
P. P. Mohla and J. Beech (Met. Dept., Univ. of Sheffield, U. K.)
J. Iron Steel Inst. (London) 207, 177-80 (1969)

Fc. 3. Carbide grain growth during the liquid-phase sintering of the alloys NbC-Fe, NbC-Ni, and NbC-Co
R. Warren (Hardmetal Res. Lab., Stora Kopparbergs Bergslags AB, Söderfors Bruk, Söderfors, Sweden)
J. Less-Common Metals 17 [1], 65-72 (1969)

G. Phase equilibria above 1000 °C

1. Solid solubility of C in Ni
C. B. Alcock and G. P. Stavropoulos (Met. Dept., Imperial College, London, SW 7)
Trans. I.M.M. 77, C232-34 (1968)

2. Thermodynamic analysis of double phase diagrams of Y and the group IV-VI transition metals
R. M. Altovskii, D. S. Gornyi, R. A. Lyutikov and A. S. Panov (Phys.-Energet. Inst., Obninsk, USSR)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 735-44

3. Controlled solidification of metal matrix composites by eutectic reactions
H. E. Bates, F. Wald and M. Weinstein (Tyco Labs. Inc., Waltham, Mass.)
J. Mater. Sci. 4, 25-32 (1969)

4. New H-phases
O. Beckmann, H. Boller and H. Nowotny (Inst. Phys. Chem., Univ. Wien, Austria)
Monatsh. Chem. 99, 1580-83 (1968)

5. On Pd-Tl and Pt-Tl mixtures
S. Bhan, T. Gödecke, P. K. Panday and K. Schubert (Max Planck Inst. Metallforsch., Stuttgart, Germ.)
J. Less-Common Metals 16 [4], 415-25 (1968)

6. Phase relations in Nb-Zr alloys
F. Bollenrath and H. Klein (Inst. Werkstoffk., Rhein.-Westfäl. T. H., Aachen, Germ.)
Metall 22, 683-87 (1968)

7. Effect of O_2 on the field of existence of the UC phases
M. Boncoeur, P. Magnier and A. Accary (Dépt. Mét., Service Chim. Solides, CEN de Saclay, Gif-sur-Yvette, Fr.)
J. Nucl. Mater. 28 [2], 233-34 (1968)

8. Phase relations in the system $CoO-TiO_2$
B. Brezny and A. Muan (Geochem. Dept., Pennsylvania State Univ., Univ. Park, Pa. 16802)
J. Inorg. Nucl. Chem. 31, 649-55 (1969)

9. The V_2O_5-Gd_2O_3 and V_2O_5-Er_2O_3 binary systems
H. Brusset, F. Madaule-Aubry, B. Blanck and A. Deboichet
Bull. Soc. Chim. Fr. [1], 15-16 (1969)

10. Alloys of the Ti-V-Cr-Mo system
P. B. Budberg and N. N. Samsonova
Izv. Akad. Nauk SSSR, Metal. [6], 201-05 (Nov.-Dec. 1968)

11. Phase transformations in the PrO_x-O_2 system: high-temperature x-ray diffraction studies
D. A. Burnham and L. Eyring (Chem. Dept., Arizona State Univ., Tempe, Ariz. 85281)
J. Phys. Chem. 72 [13], 4415-24 (1968)

12. High-temperature x-ray diffraction studies of the TbO_x-O_2 and mixed CeTb oxide-O_2 systems
D. A. Burnham, L. Eyring and J. Kordis (Chem. Dept., Arizona State Univ., Tempe, Ariz. 85281)
J. Phys. Chem. 72 [13], 4424-31 (1968)

13. The hafnium-chromium system
O. N. Carlson and D. G. Alexander (Inst. At. Res. and Met. Dept., Iowa State Univ., Ames, Iowa 50010)
J. Less-Common Metals 15 [4], 361-70 (1968)

14. Pressure-temperature studies of anatase, brookite, rutile and TiO_2-II
F. Dachille, P. Y. Simons and R. Roy (Mater. Res. Lab. and Dept. Geochem. Miner., Pennsylvania State Univ., Univ. Park, Pa. 16802)
Am. Mineralogist 53 [11-12], 1929-39 (1968)

15. Solubility of rare earth metals in Al in the solid state
M. E. Drits, E. S. Kadaner and N. Dinshoa
Izv. Akad. Nauk SSSR, Metal. [1], 219-23 (Jan.-Feb. 1969)

16. The PbSe-CaSe and PbSe-GaSe systems
R. Eholie, J. K. Kom and J. Flahaut
C. R. Acad. Sci. 268C [8], 700-02 (1969)

17. The V_2O_5-BaO system
A. A. Fotiev, V. V. Makarov, V. L. Volkov and L. L. Surat (Acad. Sci., Chem. Inst., Sverdlovsk, USSR)
Zh. Neorg. Khim. 14 [1], 277-81 (1969)

18. The high temperature solubility of N_2 in W
E. Fromm and H. Jehn (Max Planck Inst. Metallforsch., Stuttgart, Germ.)
J. Less-Common Metals 17 [1], 124-26 (1969)

G. 19. Study of the metastable liquation region in the Li_2O-B_2O_3-SiO_2 system
F. Ya. Galakhov and O. S. Alekseeva
Izv. Akad. Nauk SSSR, Neorg. Mater. 4 [12], 2161-65 (1968)

20. Studies in the system Pb-As-O
J. Gerlach, U. Hennig and F. Pawlek (Inst. Metallhüttenk., Tech. Univ. Berlin)
Metall 22, 812-16 (1968)

21. The terbium-rhenium system
O. H. Hamidov and E. M. Savitsky
Dokl. Akad. Nauk Tadzh. SSR 11 [9], 39-41 (1968)

22. Phase diagram of the pseudo-binary system PbTe-CdTe and its thermoelectric properties
T. Hirai and K. Kurata (Hitachi Ltd., Ctr. Res. Lab., Tokyo)
Trans. Japan Inst. Metals 9 [4], 301 (1968)

23. Ternary carbides in the systems U-M-C
H. Holleck (Inst. Mater.- und Festkörperf. des Kernf.-zentrums Karlsruhe, Germ.)
J. Nucl. Mater. 28 [3], 339-40 (1968)

24. Ternary U-Ce-Zr oxides, nitrides and carbides
H. Holleck and W. Wagner (Inst. Mater. u. Festkörperforsch., Kernforschungszentrum Karlsruhe, Germ.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 667-81

25. Alloy chemistry of $\delta(\beta$-U)-related phases. I. Extension of μ- and occurrence of μ'-phases in the ternary systems Nb(Ta)-X-Al (X = Fe,Co,Ni,Cu,Cr,Mo)
C. R. Hunt, Jr. and A. Raman (Eng. Mech. Dept., Louisana State Univ., Baton Rouge, La.)
Z. Metallk. 59, 701-07 (1968)

26. Phase equilibria in the system CaO-Al_2O_3-TiO_2
J. A. Imlach and F. P. Glasser (Chem. Dept., Univ. of Aberdeen, Scotland)
Trans. Brit. Ceram. Soc. 67, 581-609 (1969)

27. Solid solubility in NaCl-type uranium compounds
S. Imoto, K. Nihara (Fac. Eng., Osaka Univ., Osaka, Japan) and H.-J. Stöcker (Kernforschungsanlage Jülich des Landes Nordrhein-Westf. e. V., Germ.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 371-83

28. Algebraic method for depicting phase diagrams of multicomponent systems
O. S. Ivanov
Izv. Akad. Nauk SSSR, Metal. [1], 204-09 (Jan.-Feb. 1969)

29. The polymorphism of the oxide Ti_3O_5
H. Iwasaki, N. F. H. Bright and J. F. Rowland (Mines Br., Dept. En., Mines and Res., Ottawa, Ont., Can.)
J. Less-Common Metals 17 [1], 99-110 (1969)

30. Powder metallurgical investigations on the ternary systems Fe-W-C and Fe-Mo-C
W. Jellinghaus (Max Planck-Inst. Eisenforsch., Düsseldorf, Germ.)
Arch. Eisenhüttenw. 39, 705-18 (1968)

31. Phase studies of titaniferous slags
P. R. Jochens, G. Sommer and D. D. Howat (Met. Dept., Univ. of Witwatersrand, Johannesburg, S. Africa)
J. Iron Steel Inst. (London) 207, 187-92 (1969)

32. Co-solubility of W and B in Mo
V. I. Kharitonov, M. S. Makunin and F. I. Shamrai
Izv. Akad. Nauk SSSR, Metal. [6], 227-31·(Nov.-Dec. 1968)

33. Equilibrium diagram of the Mg-Mn-Sn system in the Mg-high region
Ch. V. Kopetskii and E. M. Semenova (Baikov Met. Inst., Moscow)
Dokl. Akad. Nauk SSSR 184 [2], 400-02 (1969)

34. Formation of Hf_6O and Hf_3O compounds in the Hf-O system
I. I. Kornilov, V. V. Glazova and G. I. Ruda
Izv. Akad. Nauk SSSR, Neorg. Mater. 4 [12], 2106-09 (1968)

35. X-ray study of the W-Fe-B and W-Co-B systems
I. B. Kuzma and M. V. Chepiga
Izv. Akad. Nauk SSSR, Neorg. Mater. 5 [1], 49-53 (1969)

36. Determination of the behavior of the liquidus surface in ternary and more complex systems based on Ge and Si
G. M. Kuznetsov, A. S. Mamin, V. D. Dubovitskii and M. B. Miller
Zavod. Lab. 35 [1], 45-47 (1969)

37. Phase relations between the two varieties of U_2N_3
J. Laugier and J. M. Martin (Ctr. Etudes Nucl. de Grenoble, Fr.)
J. Nucl. Mater. 28 [2], 215-17 (1968)

38. Structure of Rb_2B_3 and WB_2 as determined by single-crystal diffractometry, and some notes on the W-B system
T. Lundstroem
Ark. Kemi 30 [11], 115-27 (1968)

39. Phases in La-Ge systems
K. A. Lynchak, Yu. B. Kuzma and T. Ya. Kosolapova
Porosh. Met. 8 [12], 42-44 (Dec. 1968)

G. 40. Fluoride as a crystallisation promoter in glasses in the system Na_2O-CaO-MgO-Al_2O_3-SiO_2
S. Lyng (Ctr. Inst. Ind. Res., Blindern, Oslo, Norway)
Glass Technol. 9, 179-84 (1968)

41. Phase diagram of the CaF_2-AlF_3 system
M. Malinovsky, J. Vrbenska and I. Cakajdova
Chem. Zvesti 23 [1], 35-40 (1969)

42. The Zn-Sn-Ni system
A. Mayer, U. Agnelli and G. Rocco
Ann. Chim. (Rome) 59 [1], 52-80 (1969)

43. Phase relations in the system BaO-P_2O_5
R. A. McCauley and F. A. Hummel (Coll. of Earth Sci., Pennsylvania State Univ., Univ. Park, Pa.)
Trans. Brit. Ceram. Soc. 67, 619-28 (1968)

44. Phase equilibria in the systems NiO-Cr_2O_3-O_2, MgO-Cr_2O_3-O_2, and CdO-Cr_2O_3-O_2 at high O_2 pressures
O. Muller, R. Roy and W. B. White (Mater. Res. Lab., Pennsylvania State Univ., Univ. Park, Pa. 16802)
J. Am. Ceram. Soc. 51 [12], 693-99 (1968)

45. The CuO-MoO_3 phase diagram in air and in O_2
K. Nassau and J. W. Shiever (Bell Telephone Labs., Inc., Murray Hill, N. J. 07974)
J. Am. Ceram. Soc. 52 [1], 36-40 (1969)

46. The system PbO-chromium oxide in air
T. Negas (Geology Dept., Miami Univ., Oxford, Ohio 45056)
J. Am. Ceram. Soc. 51 [12], 716-19 (1968)

47. The U-Zr-C system
H. Nickel, O. Inanc and K. Lücke (Inst. Reaktorwerkstoffe, Kernf. Anlage Jülich GmbH, und Inst. Allgem. Metallk., Rhein. Westf. Tech. Hochschule Aachen, Germ.)
J. Nucl. Mater. 28 [1], 79-92 (1968)

48. Phase changes in the ZrO_2-TiO_2 system
T. Noguchi and M. Mizuno (Govt. Ind. Res. Inst., Hirate, Kita, Nagoya, Japan)
Bull. Chem. Soc. Japan 41 [12], 2895-98 (1968)

49. Ordering in crystal structures of carbides and nitrides of transition elements
H. Nowotny and F. Benesovsky (Inst. Phys. Chem., Univ. Wien and Metallwerk Plansee AG, Reutte/Tirol, Austria)
Planseeber. Pulvermet. 16, 204-14 (1968)

50. Ga-Al-As phase, thermodynamic and optical properties
M. B. Panish and S. Sumski (Bell Tel. Labs., Murray Hill, N. J.)
J. Phys. Chem. Solids 30, 129-37 (1969)

51. Calcium telluride-rare earth(III) telluride systems
M. P. Pardo and J. Flahaut
Bull. Soc. Chim. Fr. [1], 6-9 (1969)

52. Effects of pressure on phase equilibria and transformation in the Fe-Cr system
J. S. Pascover and S. V. Radcliffe (Continental Can Co. Tech. Ctr., Chicago, Ill.)
Acta Met. 17 [3], 321-38 (1969)

53. Phase diagram of the Be-Ca system
C. Potard, G. Bienvenu and B. Schaub (C.E.N., Grenoble, Fr.)
Thermodyn. Nucl. Mater., 1967; Vienna, 1968, 795-807

54. The ternary system Pu-C-O
P. E. Potter (Ceram. Div., AERE, Harwell, Berks., Engl.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 337-69

55. Germanium telluride-cadmium telluride system
P. Quenez and P. Khodadad
Bull. Soc. Chim. Fr. [1], 3-5 (1969)

56. Phase equilibria in Al_2O_3-ZrO_2-SiO_2
M. H, Quereshi and N. H. Brett (Ceram. Dept., Univ. of Sheffield, U. K.)
Trans. Brit. Ceram. Soc. 67, 569-78 (1969)

57. The determination of phase boundaries and thermodynamic functions in the Fe-O system by emf measurements
H. F. Rizzo, R. S. Gordon and I. B. Cutler (Mater. Sci. & Eng. Div., Univ. of Utah, Salt Lake City, Utah)
J. Electrochem. Soc. 116 [2], 266-74 (1969)

58. Metallographic and x-ray investigations in the Pu-O and U-Pu-O systems
C. Sari, U. Benedict and H. Blank (Europ. Inst. Transuranium Elements, Euratom, Karlsruhe, Germ.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 587-611

59. Alloys of the Nb-Zr-Cr system
M. M. Saveleva and N. V. Grum-Grzhimailo
Izv. Akad. Nauk SSSR, Metal. [1], 224-28 (Jan.-Feb. 1969)

60. Phase diagram of the Tb-Re system
E. M. Savitskii and O. K. Khamidov
Izv. Akad. Nauk SSSR, Metal. [6], 158-62 (Nov.-Dec. 1968)

G. 61. A contribution to the study of the system BaO-TiO_2 in the region of barium polytitanates
J. Schwarzbach and L. Plocek (Inst. Eltech. Cer., Hradec Králové, Czech.)
Silikáty 12 [3], 231-39 (1968)

62. Phase equilibria in the $NaNbO_3$-$BaNb_2O_6$ system
B. A. Scott, E. A. Giess and D. F. O'Kane (IBM Watson Res. Ctr., Yorktown Heights, N. Y. 10598)
Mater. Res. Bull. 4 [2], 107-17 (1969)

63. High-pressure polymorphism and reactions of Dy_2O_3
H. A. Seck, F. Dachille and R. Roy (Mater. Res. Lab., Pennsylvania State Univ., Univ. Park, Pa. 16802)
Inorg. Chem. 8 [1], 165-68 (1969)

64. Investigations in the systems Mn-(V,Re,Fe)-Si
S. Setz, H. Nowotny and F. Benesovsky (Inst. Phys. Chem., Univ. Wien and Metallwerk Plansee AG, Reutte/Tirol, Austria)
Monatsh. Chem. 99, 2004-15 (1968)

65. The SiC phase in the system SiC-B_4C-C
P. T. B. Shaffer (Carborundum Co. R/D Div., Niagara Falls, N. Y.)
Mater. Res. Bull. 4 [3], 213-19 (1969)

66. Ytterbium(II) selenide-rare earth(III) selenide systems
C. Souleau, M. Guittard and P. Laruelle
Bull. Soc. Chim. Fr. [1], 9-14 (1969)

67. Effect of pressure on magnetic phase transitions of Eu chalcogenide EuO, EuS and EuSe
V. C. Srivastava and R. Stevenson (Phys. Dept., McGill Univ., Montreal, Que., Can.)
Can. J. Phys. 46 [23], 2703-13 (1968)

68. The Hf-Co phase diagram
V. N. Svechnikov, A. K. Shurin and G. P. Smitrieva
Izv. Akad. Nauk SSSR, Metal. [1], 214-18 (Jan.-Feb. 1969)

69. Phase equilibria in Mg-Y and Mg-Y-Mn systems
Z. A. Sviderskaya and E. M. Padezhonova
Izv. Akad. Nauk SSSR, Metal. [6], 183-90 (Nov.-Dec. 1968)

70. Combinations between various lanthanide and yttrium sulfide systems
V. V. Tien and P. Khodadad
Bull. Soc. Chim. Fr. [1], 30-39 (1969)

71. Study of the high-temperature transformations of $LaYbO_3$
J. P. Traverse, J. Coutures and M. Foex (Lab. Ultra-Réfract., 66-Montlouis, Fr.)
C. R. Acad. Sci. 267C, 391 (1968)

72. Investigation of the eutectic point in the system Al_2O_3-$Y_3Al_5O_{12}$
D. Viechnicki and F. Schmid (Army Mater. & Mech. Res. Ctr., Watertown, Mass.)
Mater. Res. Bull. 4 [2], 129-35 (1969)

73. Eutectic solidification in the system Al_2O_3-$Y_3Al_5O_{12}$
D. Viechniki and F. Schmid (Army Mater. Res. Ctr., Watertown, Mass.)
J. Mater. Sci. 4, 84-88 (1969)

74. Phase equilibria in alloys of the Ti-Al-Mo-Zr system
M. A. Volkova and I. I. Kornilov
Izv. Akad. Nauk SSSR, Metal. [6], 195-200 (Nov.-Dec. 1968)

75. The Pd-Mg alloy phase of the Co_2Al_5 type
L. Westin
Acta. Chem. Scand 22 [8], 2574-80 (1968)

76. Carbon solubility in Si-Mn
N. F. Yakushevich, N. V. Tolstoguzov, V. D. Mukovkin and V. A. Rudenko
Izv. Vyssh. Ucheb. Zaved., Chern. Met. 11 [10], 67-70 (Oct. 1968)

77. Magnesium rich phase of the Mg-Y-Zn phase diagram
B. N. Zaselyan, P. Ya. Saldau and S. K. Afanasev
Izv. Akad. Nauk SSSR, Metal. [6], 191-94 (Nov.-Dec. 1968)

78. On the formation of a cubic solid solution of fluorite-type structure in the ZrO_2-Y_2O_3 system
V. N. Zubankov, V. N. Strekalovski and S. F. Palguev
Izv. Akad. Nauk SSSR, Neorg. Mater. 5 [1], 88-92 (1969)

Reactions at temperatures above 1000 °C

1. Purification of Fe and Zr by zone refining under a high purity atmosphere
P. Ailloud and J. P. Langeron
Colloq. Int., Ctr. Nat. Rech. Sci. [167], 73-84 (1968)

2. Corrosion of Ni in O_2 + SO_2 atmospheres at high temperatures
C. B. Alcock, M. G. Hocking and S. Zador (Met. Dept., Imperial College, London, SW 7)
Corrosion Sci. 9, 111-22 (1969)

3. Thermodynamics of alloy and intermetallic compound formation by vapour transport reactions
C. B. Alcock and J. H. E. Jeffes (Met. Dept., Imperial College, London, SW 7)
Trans. I.M.M. 77, C195-200 (1968)

H. 4. Synthesis of lanthanide chalcogenides
A. Aloman
Rev. Chim. (Bucharest) 19 [9], 507-09 (1968)

5. Reaction of Al_2O_3 melt with Ta, Mo and Nb
A. I. Avgustinik, G. I. Zhuralev and I. A. Matusov
Zh. Prikl. Khim. 42 [1], 62-67 (1969)

6. Phase formation accompanying the interaction of transition metals with carbon in fine layers
A. A. Babad-Zakhryapin, L. M. Gert and V. D. Rogozin (Phys.-Energet. Inst., Obninsk, USSR)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 427-34

7. Preparation and properties of ThP and ThP-UP solid solutions
Y. Baskin (Argonne Nat. Lab., Argonne, Ill. 60439)
J. Am. Ceram. Soc. 52 [1], 54-55 (1969)

8. Borides and nitrides. Study of their flame spraying with the plasma torch and their characteristics after such re-forming
G. Bentz, G. Provost and C. Urban (Soc. Air Liquide, Soc. Franc. Céram. and Soc. L. Demarquest)
Ind. Céram. [612], 853 (1968)

9. Purification of Cr by the zone melting method
J. Bigot
Colloq. Int., Ctr. Nat. Rech. Sci. [167], 61-65 (1968)

10. Oxidation and corrosion of metals at high temperature
O. L. Bihet
Ind. Chim. Belge 32, Special No. (Part 2), 68-75 (1967)

11. Studies on the decarburization of Fe-C melts
G. Breuer, G. Trömel and H.-J. Engell (Max Planck-Inst. Eisenfors
Düsseldorf, Germ.)
Arch. Eisenhüttenw. 39, 553-57 (1968)

12. Carbon self-diffusion in polycrystalline WC
C. P. Buhsmer, Jr. (State Univ. of N. Y., College of Ceram., 1968)
Dissertation Abstr. 29B [6], 1998 (1968-69)

13. A thermodynamic method of determining the conditions for the synthesis of single CdS crystals from the gaseous phase
B. M. Bulakh
Izv. Akad. Nauk SSSR, Neorg. Mater. 5 [1], 20-24 (1969)

14. Production of single TaON crystals for structure study
I. A. Buslaev and 7 others
Izv. Akad. Nauk SSSR, Neorg. Mater. 5 [1], 45-48 (1969)

15. Solid state reaction between NiO and Fe_2O_3
D. Cerovic, I. Momcilovic and S. J. Kiss (Nucl. Sci. Inst., Vinca, Beograd, Yugoslavia)
J. Mater. Sci. 4, 174-78 (1969)

16. The oxidation of W at high temperatures. The system W + CO_2
D. Cismaru and A. Geangu-Moisin (Acad. RSR, Inst. Phys. Chem., Bucharest, Rumania)
Rev. Roumaine Chim. 14 [1], 29-34 (1969)

17. Kinetics of C and O removal in the DH process at low C levels
F. D. Delve, G. C. Duderstadt and R. F. Kowal
J. Iron Steel Inst. (London) 206, 1218-22 (1968)

18. Oxidation of liquid non-ferrous metals
M. Drouzy and C. Mascre (Dept. Met., Ctr. Tech. Ind. Fond., Paris)
Metals & Mater. 3, Review 131 (1969)

19. Purification of Ni by the zone melting method
B. Dubois
Colloq. Int., Ctr. Nat. Rech. Sci. [167], 67-71 (1968)

20. Measurement of the diffusion coefficient of C in Re
R. Ducros and P. Le Goff (Ctr. Cinét. Phys. et Chim. CNRS, Villers-Nancy, Meurthe et Moselle, Fr.)
C. R. Acad. Sci. 267C, 704 (1968)

21. M_7C_3 formation in alloy steels
D. J. Dyson and K. W. Andrews (Brit. Steel Corp., Swinden Labs., Moorgate, Rotherham, U. K.)
J. Iron Steel Inst. (London) 207, 208-19 (1969)

22. Reaction of WO_3 and TiO_2 with C
V. P. Elyutin, Yu. A. Pavlov, V. P. Polyakov and Yu. S. Skrobut
Izv. Vyssh. Ucheb. Zaved., Chern. Met. 11 [11], 5-10 (Nov. 1968)

23. Investigation of C diffusion from UC into Mo and W
V. S. Eremeev
At. Energ. (USSR) 25 [5], 489-92 (1968)

24. Reaction of graphite materials with sulfur at temperatures up to 1100 °C
I. M. Eselev
Zh. Prikl. Khim. 42 [1], 17-24 (1969)

25. Equilibria between Mn-, Si-, and O_2-containing Fe melts and their slags in MnO crucibles at 1530-1700 °C
W. A. Fischer and P. W. Bardenheuer (Max Planck-Inst. Eisenforsch., Düsseldorf, Germ.)
Arch. Eisenhüttenw. 39, 559-70 (1968)

H. 26. Equilibria between Mn-, Al-, and O_2-containing Fe melts and their slags in MnO crucibles at 1530-1700 °C
W. A. Fischer and P. W. Bardenheuer (Max Planck-Inst. Eisenforsch. Düsseldorf, Germ.)
Arch. Eisenhüttenw. 39, 637-43 (1968)

27. Thermodynamics of multi-component solutions demonstrated on homogeneous Fe-Cr-P-C melts
M. G. Frohberg, J. F. Elliot and H. G. Hadrys (Inst. Allgem. Met., Tech. Univ. Berlin and Mass. Inst. Tech., Cambridge, Mass.)
Arch. Eisenhüttenw. 39, 587-93 (1968)

28. Electrolytic dissociation of liquid slags and its importance for metallurgical reactions. I. Constitution and thermodynamic treatment of liquid slags
M. G. Frohberg, D. Papamantellos and P. Patel (Inst. Allgem. Met., Tech. Univ. Berlin)
Arch. Eisenhüttenw. 39, 651-56 (1968)

29. Oxidation of graphite catalysed by Pd
J. R. Fryer (Chem. Dept., Univ. of Glasgow, Scotland)
Nature 220, 1121-22 (1968)

30. Rate of oxygen uptake of Cu melts
J. Gerlach and P. Herfort (Inst. Metallhüttenk., Tech. Univ. Berlin)
Metall 22, 1086-90 (1968)

31. Preparation processes and stabilization of UN
F. Gorle, W. Timmermans, F. Casteels, J. Vangeel and M. Brabers (C.E.N.-S.C.K., Mol, Belgium)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 481-96

32. Growth of single crystals of yttrium aluminum garnet dopes with Nd(III) and Cr(III) for solid state lasers by the flame fusion process
H. Hammer
Rocz. Chem. 43 [1], 213-16 (1969)

33. A technique for growing ulvospinel single crystals from the melt
Z. Hauptman and A. Stephenson (School of Phys., Univ. of Newcastl on-Tyne, U. K.)
J. Sci. Instr. 1, 1236-37 (1968)

34. Preparation and properties of B_4C continuous filaments
J. B. Higgins, A. Gatti and J. J. Gebhardt (G. E. Space. Sci. Lab., Space. Tech. Ctr., Philadelphia, Pa.)
J. Electrochem. Soc. 116 [1], 137-43 (1969)

35. The formation of mixed crystals by the rare earth nitrides CeN and NdN
H. Holleck, E. Smailos and F. Thümmler (Inst. Mater.- und Festkörperf. des Kernf.-zentrums Karlsruhe, Germ.)
J. Nucl. Mater. 28 [1], 105-09 (1968)

36. Kinetics of gassing and degassing of group Va elements
G. Hörz (Max Planck-Inst. Metallforsch., Stuttgart, Germ.)
Metall 22, 1201-05 (1968)

37. Degassing of vanadium
G. Hörz (Max Planck-Inst. Metallforsch., Stuttgart, Germ.)
Z. Metallk. 59, 832-34 (1968)

38. Solid-state reactions in powdered compacts: a review
S. F. Hulbert (Ceram. Eng. Dept., Clemson Univ., Clemson, S. C.)
J. Brit. Ceram. Soc. 6, 11-20 (1969)

39. Chemico-mineralogical changes in high alumina brick in the lining of a furnace for melting synthetic slags
M. N. Kaibicheva, L. Ya. Pivnik and M. I. Flerova
Ogneupory 33 [12], 20-22 (Dec. 1968)

40. Kinetics of gaseous selective oxidation of binary and ternary alloys of liquid iron
R. S. Kaplan (Carnegie-Mellon Univ., 1968)
Dissertation Abstr. 29B [6], 2057-58 (1968-69)

41. High-temperature oxidation of Co-10 w/o Cr alloys. I. Microstructure of oxide scales. II. Oxidation kinetics
P. K. Kofstad and A. Z. Hed (Battelle Memorial Inst., Columbus, Ohio)
J. Electrochem. Soc. 116 [2], 224-34 (1969)

42. Solid state reactions between CaO and α-Al_2O_3
I. Kohatsu and G. W. Brindley (Pennsylvania State Univ., Univ. Park, Pa.)
Z. Phys. Chem. (Frankfurt) 60, 79-89 (1968)

43. Reaction of liquid Si with high-heat metals
V. I. Kostikov, N. P. Levina and V. J. Levin
Izv. Akad. Nauk SSSR, Neorg. Mater. 5 [1], 152-54 (1969)

44. Preparation and properties of Fe single crystals
H. H. Kranzlein, M. S. Burton and G. V. Smith
Colloq. Int., Ctr. Nat. Rech. Sci. [167], 361-68 (1968)

45. The recovery of Ti from its tetrachloride in a low-temperature plasma
V. V. Krapukhin and E. A. Korolev (Moscow Inst. Steel & Alloys)
Izv. Vyssh. Ucheb. Zaved., Tsvet. Met. 11 [6], 66-72 (Nov.-Dec. 1968)

H. 46. High pressure synthesis and superconducting properties of Y_2C_3
M. C. Krupka, A. L. Giorgi, N. H. Krikorian and E. G. Szklarz
(Los Alamos Sci. Lab., Los Alamos, N. M. 87544)
J. Less-Common Metals 17 [1], 91-98 (1969)

47. Kinetics of the reduction of Mn from molten slags by solid C
B. A. Kukhtin, V. N. Boronenkov, O. A. Esin and G. A. Toporishchev
Izv. Akad. Nauk SSSR, Metal. [1], 119-24 (Jan.-Feb.1969)

48. Interdiffusion in a U-Si system
S. Ya. Lebedev, T. I. Taurbaev and L. P. Pavlinov
At. Energ. 26 [1], 73-74 (1969)

49. The ideality of the UC-UN solid solution
J. M. Leitnaker (Oak Ridge Nat. Lab., Oak Ridge, Tenn.)
Thermodyn. Nucl. Mater., 1967; IAEA, Vienna, 1968, 317-30

50. Investigation of diffusion of Au in Ti
Yu. V. Levinskii, Yu. D. Stogonov, S. E. Salibekov, M. Kh. Levinskaya and S. A. Prokofev
Izv. Akad. Nauk SSSR, Neorg. Mater. 4 [12], 2068-73 (1968)

51. Nature of cathode processes during electrolysis of cryolyte-alumina melts
L. N. Lozhkin and A. P. Popov
Zh. Prikl. Khim. 41 [11], 2405-11 (1968)

52. The diffusion of O and S in liquid Fe
R. L. McCarron (Univ. of Pennsylvania, 1968)
Dissertation Abstr. 29B [7], 2461-62 (1968-69)

53. Concentration dependence of diffusion of Co in Ni-Co alloys
B. Million and J. Kučera (Met. Inst., Czech. Acad. Sci., Brno, CSSR)
Acta Met. 17 [3], 339-44 (1969)

54. Desulfurization kinetics during the interactions of a slag with cast iron droplets
Ya. A. Minaev and V. A. Grigoryan
Izv. Akad. Nauk SSSR, Metal. [1], 112-14 (Jan.-Feb. 1969)

55. High temperature S corrosion of ferritic Cr steels
S. Mrowec, T. Werber and J. Podhorhodecki (School of Mining & Met., Cracow, Poland)
Corrosion Sci. 8, 815-25 (1969)

56. Thermodynamics of the aluminothermal reduction of Cs and Rb aluminates
A. A. Nadiradze, N. P. Mgaloblishvili and B. N. Bokeriya
Soobshch. Akad. Nauk Gruz. SSR 52 [3], 721-24 (1968)

57. Crystal growth and properties of mica-like K niobates
K. Nassau, J. W. Shiever and J. L. Bernstein (Bell Tel. Labs., Murray Hill, N. J.)
J. Electrochem. Soc. 116 [3], 348-53 (1969)

58. The synthesis of U_2C_3
H. Nickel and H. Saeger (Inst. Reaktorwerkstoffe der Kernf. Anlage Jülich GmbH, Germ.)
J. Nucl. Mater. 28 [1], 93-104 (1968)

59. Simulation of the copper converter
A. Niemi and T. Koskinen (Control & Systems Eng. Dept., Univ. of Oulu, Finland)
Trans. I.M.M. 77, C201-08 (1968)

60. Oxidation zone refining of iron
B. F. Oliver and E. W. Troy
Colloq. Int., Ctr. Nat. Rech. Sci. [167], 39-47 (1968)

61. Uranium diffusion in Ti-Mo alloys
L. V. Pavlinov
At. Energ (USSR) 25 [5], 434 (1968)

62. Growth of large Fe crystals at the expense of a polygonized polycrystalline matrix
R. Penelle and D. Pollnow
Colloq. Int., Ctr. Nat. Rech. Sci. [167], 351-60 (1968)

63. Some features of the production of single garnet crystals from molten solid solutions
R. A. Petrov and A. G. Titova
Izv. Akad. Nauk SSSR, Neorg. Mater. 5 [1], 120-23 (1969)

64. Diffusion of Al in molten Fe
D. Ya. Povolotskii and V. E. Roshchin
Izv. Akad. Nauk SSSR, Metal. [1], 239-43 (Jan.-Feb. 1969)

65. Preparation and magnetic properties of Bi substituted single crystal rare earth orthoferrites
J. P. Remeika, E. M. Gyorgy and D. L. Wood (Bell Tel. Labs., Murray Hill, N. J.)
Mater. Res. Bull. 4 [1], 51-56 (1969)

66. Zone purification and analysis of large bars of Fe
G. W. P. Rengstorff
Colloq. Int., Ctr. Nat. Rech. Sci. [167], 85-90 (1968)

67. Kinetics and mechanism of thermal oxidation of Si with special emphasis on impurity effects
A. G. Revesz and R. J. Evans (RCA Labs., Princeton, N. J.)
J. Phys. Chem. Solids 30, 551-64 (1969)

H. 68. Thermodynamics in high temperature chemical metallurgy
F. D. Richardson
Ind. Chim. Belge 32, Special No. (Part 1), 19-28 (1967)

69. Oxidation of Zr - a critical review of literature
C. J. Rosa (Denver Res. Inst., Univ. of Denver, Col. 80210)
J. Less-Common Metals 16 [3], 173-201 (1968)

70. Kinetics of the attack of Re by atomic and diatomic O_2 at high temperatures
D. E. Rosner and H. D. Allendorf (AeroChem Res. Labs., Princeton, N. J. 08540)
J. Chem. Phys. 49 [12], 5553-55 (1968)

71. Solar furnace study of the kinetics of the reduction by H_2 of pure and doped Cr_2O_3
C. Royère and F. Trombe (Lab. Energie Solaire, 66-Montlouis, Fr.)
C. R. Acad. Sci. 267C, 1275 (1968)

72. Study of the kinetics of formation of yttrium orthoniobate and orthotantalate during high-temperature synthesis
M. V. Saveleva, S. S. Plotkin, I. V. Shakhno and V. E. Plyushchev
Izv. Akad. Nauk SSSR, Neorg. Mater. 4 [12], 2141-45 (1968)

73. On the solubility of hydrogen in Ni-Cr and Ni-Si alloys
H. Schenck and K. W. Lange (Inst. Eisenhüttenw., Rhein.-Westfäl. T. H., Aachen)
Arch. Eisenhüttenw. 39, 673-76 (1968)

74. Thermal decomposition of fluorspar by water vapor
E. Schlegel (Inst. Silikathüttenk., Bergakad. Freiberg in Sachsen, Germ.)
Ber. Deut. Keram. Ges. 45, 520-23 (1968)

75. Influence of O_2 on growth of 2H-SiC whiskers
N. Setaka and K. Ejiri (Nat. Inst. Res. Inorg. Mater., Honkomagom
Bunkyo-ku, Tokyo)
J. Am. Ceram. Soc. 52 [1], 60-61 (1969)

76. New Cr chalcogenides prepared at high pressure and the crystal growth of Cr_2S_3
A. W. Sleight and T. A. Bither (DuPont Exper. Sta., Wilmington, Del. 19898)
Inorg. Chem. 8 [3], 566-69 (1969)

77. Purification of iron by zone melting
R. L. Smith and E. J. Koepel
Colloq. Int., Ctr. Nat. Rech. Sci. [167], 27-37 (1968)

78. The preparation of single crystal orthorhombic SiP_2
A. J. Spring Thorpe (School of Phys., Bath Univ. of Tech., Bath, Somerset, Engl.)
Mater. Res. Bull. 4 [2], 125-28 (1969)

79. Liquid phase extrusion hot-pressing
R. F. Stoops (North Carolina State Univ., Raleigh, N. C.)
Am. Ceram. Soc. Bull. 48 [2], 225-27 (1969)

80. Synthesis of the lanthanide aluminates
G. Szabo and R. A. Paris (Fac. Sci. Lyon, Villeurbanne, Rhône, Fr.)
C. R. Acad. Sci. 267C, 1816 (1968)

81. Air speed and the oxidation of mild steel
W. J. Tomlinson and S. Catchpole (Rugby Coll. of Eng. Tech., Eastlands, Rugby, U. K.)
Corrosion Sci. 8, 845-49 (1969)

82. Study of the flame spraying of borides and nitrides with the plasma torch. II. Characteristics of the films obtained
C. Urban, G. Provost and G. Bentz (Soc. Air Liquide, Soc. Franc. Céram. and Soc. L. Demarquest)
Bull. Soc. Franc. Céram. [79], 1 (1968)

83. Diffusion of S in V and Ta
B. A. Vandyshev and A. S. Panov
Izv. Akad. Nauk SSSR, Metal. [1], 244-46 (Jan.-Feb. 1969)

84. Mechanism and kinetics of reduction reactions
L. Visnyovszky
Arch. Eisenhüttenw. 39, 733-40 (1968)

85. Internal oxidation of Cu-Pd and Cu-Pt alloys
C. Wagner (Max-Planck-Inst., Göttingen, Germ.)
Corrosion Sci. 8, 889-93 (1968)

86. Distribution of cations in metal oxide and metal sulphide solid solutions formed during oxidation of alloys
C. Wagner (Max-Planck-Inst., Göttingen, Germ.)
Corrosion Sci. 9, 91-109 (1969)

Books

1. Electrochemistry of molten and solid electrolytes. Vol. 7. Physicochemical properties of electrolytes. (Trudy No. 10 of the Electrochem. Inst.)
A. N. Baraboshkin, Ed. (Electrochem. Inst., Urals Br., Acad Sci. USSR, Sverdlovsk)
Consultants Bureau, 1969, about 99 p., $15

I. 2. Advanced materials - refractory fibers, fibrous metals, and composites (Second Edition)
C. Z. Carroll-Parczynski
Chemical Publ. Co., 1969, $16.50

3. Oxidation of metals (An international journal on the science of gas-solid reactions)
D. L. Douglass, Ed. (Mater. Div., Univ. Calif., Los Angeles)
Plenum Press, 1969, quarterly, $22/yr. ($14/yr. personal)

4. High-purity metals and alloys: fabrication, properties and testin
Ed. by V. S. Emelyanov and A. I. Evstyukhin
Consultants Bureau, 1967, 175 p., $22.50

5. Solid state chemistry
N. B. Hannay
Prentice Hall, 1967, 225 p.

6. High temperature nuclear fuels
Ed. by A. N. Holden (Westinghouse Electr. Co., Pittsburgh, Pa.)
Gordon and Breach, 1968, 528 p.

7. Molecular flow in vessels
Yu. N. Lyubitov (Inst. Cryst., Acad. Sci., USSR)
Consultants Bureau, 1967, 164 p., $22.50

8. Protective coatings on metals. Vol. 1
Ed. by G. V. Samsonov (Inst. Cermets & Special Alloys, Acad. Sci. Ukr. SSR, Kiev, USSR)
Consultants Bureau, 1969, about 155 p., $15

9. Growth of crystals. Vol 7. (Proc of first half of Symp. on Crystal Growth, 7 Int. Congress of Int. Union of Cryst., Moscow, 1966)
Ed. by N. N. Sheftal (Inst. Cryst., Acad. Sci., USSR)
Consultants Bureau, 1969, about 305 p., $25

10. Chromium. Second Edition
A. H. Sully and E. A. Brandes
Plenum Press, 1967, 373 p., $19.50

11. Chemistry of high-temperature materials. (Proc. second all-union confer. on high-temperature chem. of oxides, Leningrad, 1965)
N. A. Toropov, Ed. (Grebenshchikov Inst. Silicate Chem., Acad. Sci. USSR, Leningrad)
Consultants Bureau, 1969, about 233 p., $25

Part II. GASES

Spectroscopy of interest to high temperature chemistry

1. Potential curves of electron states for the arsenic monoxide molecule.
   Raymond Grandmontagne, Jean Pierre Goure, and Jean d'Incan (Univ. Lyon, Villeurbanne, France).
   J. Phys. (Paris) 28(10), 795-7(1967)(Fr).

2. "Forbidden" intercombination transition of dicarbon radical in comets.
   R. J. Fallon (Res. Div., Melpar, Inc., Falls Church, Va.).
   Nature 217(5135), 1240-1(1968).

3. Diatomic carbon Ballik-Ramsay bands in late carbon stars.
   J. Hunaerts (Roy. Obs. Belgium, Brussels).
   Astrophys. J. 149(1)(Pt. 2), L31-L32(1967).

4. Isotope effects on Franck-Condon factors: intensity distribution in the rotational structure of the oxygen molecule Schumann-Runge and the hydrogen molecule and deuterium molecule Lyman band systems.
   M. Halmann and I. Laulicht (Weizmann Inst. Sci., Rehovoth, Israel).
   J. Quant. Spectrosc. Radiat. Transfer 8(3), 935-44(1968).

5. Rotational analysis of two bands of $A^2\Pi \rightarrow X^2\Sigma^+$ system of the magnesium monochloride molecule.
   M. M. Patel and P. D. Patel (M. S. Univ., Baroda, India).
   Curr. Sci. 36(21), 571-2(1967).

6. Electron systems of the phosphorus-oxygen radical. II. New considerations on the γ system ($A^2\Sigma^+$-$X^2\Pi a$ transition).
   Bernard Coquart, Claude Couet, Tuan AnhNgo, and Henri Guenebaut (Fac. Sci., Reims, France).
   J. Chim. Phys. 64(7-8), 1197-208(1967)(Fr).

7. Dissociation energy of aluminum monoxide.
   D. C. Tyte (York Univ., Toronto, Can.).
   Proc. Phys. Soc. 92(4), 1134-7(1967).

8. $B\ ^2\Sigma \rightarrow A\ ^2\Pi_i$ bands of CN.
   F. J. LeBlanc (Air Force Cambridge Res. Lab., Office of Aerospace Res., Bedford, Mass.).
   J. Chem. Phys. 48(4), 1841-2(1968).

A. 9. Optical identification of the 12.28-ev. quadrupole transition in molecular nitrogen.
Kurt Dressler and Barry L. Lutz (Princeton Univ., Princeton, N. J.).
Phys. Rev. Lett. 19(21), 1219-21(1967).

10. The 5350-A. band of iodine: a simple resolution test.
A. W. Richardson and R. A. Powell (Vanderbilt Univ., Nashville, Tenn.).
J. Mol. Spectrosc. 24(3), 379-81(1967).

11. Cut-off type organic absorption light filters for the 310-500 mμ spectral region.
M. A. Okatov, L. I. Voronina, N. A. Chernyavskaya, P. P. Egorov, and G. B. Pukhlyakova.
Zh. Prikl. Spektrosk. 7(4), 638-43(1967)(Russ). CA Vol. 68, 109814 (1968).

12. Observation and characterization of new emission bands from difluorocarbene.
Louis Marsigny, Jacques Ferran, Joseph Lebreton, and Rene Lagrange (Coll. Sci. Univ. Tours, Tours-Grandmont, Fr.).
C. R. Acad. Sci., Paris, Ser. C 266(8), 507-9(1968)(Fr).

13. Determination of the absolute oscillator strengths of three resonance lines of titanium.
P. Reinke (Univ. Kiel, Ger.).
Z. Astrophys. 66(3), 234-45(1967)(Ger).

14. Measurements of spectral emission and absorption of a high pressure xenon arc in the stationary and the flashed modes.
Lothar Klein (Warner and Swasey Co., Flushing, N. Y.).
Appl. Opt. 7(4), 677-85(1968).

15. Spectroscopic research.
Robert S. Mulliken (Univ. Chicago).
Clearingshouse Fed. Sci. Tech. Inform., AD 654005. Avail. CFSTI, 10 pp. (1967).

16. Mercury resonance line broadened by argon.
Josef Szudy (Nicholas Copernicus Univ., Torun, Poland).
Acta Phys. Polon. 29(5), 605-21(1966).

17. High temperature furnace-cell with an orthogonal temperature field for spectral studies.
S. M. Chernin, A. A. Mal'tsev, and A. D. Svenchanskii (Mosk Gos. Univ., Moscow).
Prib. Tekh. Eksp. 1967(4), 189-92(Russ). CA Vol. 68, 109883 (1968).

18. Determination of the transition potential for faint lines of magnesium and tin.
G. V. Ovechkin, Sh. Bakhtovarshoev, and L. E. Sandrigailo.
Zh. Prikl. Spektrosk. 7(3), 441-4(1967)(Russ). CA Vol. 68 109885 (1968).

19. Measurement of absorption oscillator strengths of oxygen I lines in the vacuum ultraviolet.
G. Boldt and F. Lybuhn (Max-Planck-Inst. Extraterrestrische Phys., Garching, Ger.).
Z. Naturforsch., A 22(10), 1613-15(1967)(Ger).

20. Production of molecular nitrogen ($A^3\Sigma$) and carbon monoxide ($a^3\pi$) by mercury ($^1P_1$) photosensitization; pressure dependence of 2537-A. emission.
A. Granzow, M. Z. Hoffman, N. N. Lichtin, and S. K. Wason (Boston Univ., Boston, Mass.).
J. Phys. Chem. 72(4), 1402(1968).

21. Magnetic resonance in mercury vapor induced by frequency-modulated light.
G. D. Chapman (Oxford Univ., Oxford, Engl.).
Proc. Phys. Soc. 92(4), 1070-3(1967).

22. A continuously tunable, laser-generated, source of radiation in the 0.5 to 0.8 micron spectral range.
M. D. Martin and E. L. Thomas (Min. Technol., Signals Res. & Develop. Estab., Christchurch, Engl.).
Phys. Lett., A 25(8), 637-8(1967).

23. Apparatus for the precise determination of lifetimes of atomic states.
E. E. Habib, B. P. Kibble, and G. Copley (Univ. Windsor, Windsor, Ont.).
Appl. Opt. 7(4), 673-5(1968).

24. Monochromatic flash spectroscopy with mercury resonance radiation.
A. B. Callear and R. E. M. Hedges (Univ. Cambridge, Cambridge, Engl.).
Nature 218(5137), 163-5(1968).

25. Electronic systems of the PO radical. III. β system ($B^2\Sigma^+$ - $X^2\Pi_a$ transition).
Claude Couet, Ngo Tuan Anh, Bernard Coquart, and Henri Guenebaut (Lab. Chim. Phys., Fac. Sci., Reims, Fr.).
J. Chim. Phys. Physicochim. Biol. 65(2), 217-26(1968)(Fr).

A. 26. Comparison of average amplitudes of oscillation for some simple molecules.
A. N. Maiorov and I. N. Godnev.
Zh. Prikl. Spektrosk. 8(1), 109-12(1968)(Russ). CA Vol. 68 117257 (1968).

27. Electron interference in diatomic gas.
John Rundgren (Roy. Inst. Technol., Stockholm, Swed.).
Ark. Fys. 35(30), 361-70(1967).

28. Kinetics of reactions involving CN emission. III. The excitation of CN in active nitrogen.
J. C. Boden and B. A. Thrush (Univ. Cambridge, Cambridge, Engl.).
Proc. Roy. Soc., Ser. A 305(1480), 93-105(1968).

29. Kinetics of reactions involving CN emission. IV. Study of the reactions of CN by electronic absorption spectroscopy.
J. C. Boden and B. A. Thrush (Univ. Cambridge, Cambridge, Engl.).
Proc. Roy. Soc., A 305(1480), 107-23(1968).

30. Dissociation energy of copper monofluoride.
D. L. Hildenbrand (Douglas Advan. Res. Lab., Huntington Beach, Calif.).
J. Chem. Phys. 48(6), 2456-9(1968).

31. Rotational analysis of the γ bands of SiF.
O. Appelblad, R. F. Barrow, and R. D. Verma (Stockholm Univ., Stockholm, Swed.).
Proc. Phys. Soc., London, At. Mol. Phys. [2]1(2), 274-82 (1968).

32. Absolute transition probabilities in ultraviolet molecular spectra.
James E. Hesser (Princeton Univ. Obs., Princeton, N. J.).
J. Chem. Phys. 48(6), 2518-35(1968).

33. Analysis of autoionization resonance structure in the $5s^2$ $^1S_0$-4dnp, nf spectrum of strontium I.
W. R. S. Garton, G. L. Grasdalen, W. H. Parkinson, and E. M. Reeves (Harvard Coll. Obs., Cambridge, Mass.).
Proc. Phys. Soc., London, At. Mol. Phys. [Ser. 2] 1(1), 114-19(1968).

34. Argon resonance line lamp for vacuum ultraviolet photochemistry.
Arthur L. Lane and Aron Kuppermann (California Inst. of Technol., Pasadena).
Rev. Sci. Instrum. 39(1), 126-7(1968).

35. Extension of the cyano radical red and violet band systems.
F. J. LeBlanc (U. S. Air Force Cambridge Res. Lab., Office of Aerosp. Res., Bedford, Mass.).
J. Chem. Phys. 48(5), 1980-4(1968).

36. Isotope shift in the second spectrum of barium.
F. M. Kelly and E. Tomchuk (Univ. Manitoba, Winnipeg, Can.).
Can. J. Phys. 45(12), 3931-4(1967).

37. Infrared emission from the N-I_2 reaction flame.
L. F. Phillips (Univ. Canterbury, Christchurch, N. Z.).
Can. J. Chem. 46(8), 1450-2(1968).

38. Emission spectrum of molecular fluorine.
Terence L. Porter (Nat. Sci. Found., Washington, D. C.).
J. Chem. Phys. 48(5), 2071-83(1968).

39. Some recent experimental data on the fine structure of the $3\pi_i$ excited state of the positive charged hydroxyl molecule.
Denis Rakotoarijimy (Observ. Paris, Sect. Astrophys. Meudon, Meudon, Fr.).
C. R. Acad. Sci., Paris, Ser. A, B 266B(12), 778-81 (1968)(Fr).

40. Rotational analysis of the β-band system of silicon monofluoride molecule.
O. N. Singh and I. S. Singh (Banaras Hindu Univ., Varanasi, India).
Curr. Sci. 37(1), 8-10(1968).

41. Intense mercury-vapor green-band emission.
R. J. Carbone and M. M. Litvak (Massachusetts Inst. of Technol., Lexington, Mass.).
J. Appl. Phys. 39(5), 2413-16(1968).

42. Lineshape of double resonance signals owing to time resolved observation of the decay of excited atomic states.
I. J. Ma, J. Mertens, G. zu Putlitz, and G. Schuette (Univ. Heidelberg, Ger.).
Z. Phys. 208(4), 352-63(1968)(Ger).

43. Fine structure analysis of the $C_1 - X_2$ ultraviolet system of bismuth monofluoride.
P. Sreenivasa Murty and P. Tiruvenganna Rao (Andhra Univ., Waltair, India).
Curr. Sci. 36(24), 661(1967).

44. Laser-induced fluorescence in a molecular beam of iodine.
Shaoul Ezekiel and Rainer Weiss (Massachusetts Inst. of Technol., Cambridge).
Phys. Rev. Lett. 20(3), 91-3(1968).

A. 45. Vacuum ultraviolet chemiluminescence from the reactions of active nitrogen with I_2, IBr, ICl, and ICN.
L. F. Phillips (Univ. Canterbury, Christchurch, N. Z.).
Can. J. Chem. 46(8), 1429-34(1968).

46. The 4000-8000-A. emission from far-ultraviolet photolysis of N_2O, NO, NO_2, CO, CO_2, and O_2.
R. A. Young, G. Black, and T. G. Slanger (Stanford Res. Inst., Menlo Park, Calif.).
J. Chem. Phys. 48(5), 2067-70(1968).

47. Structured fluorescence spectrum of anthracene vapor.
John E. Haebig (Univ. of Chicago).
J. Mol. Spectrosc. 25(1), 117-20(1968).

48. Spectrum and structure of the helium molecule. V. Characterization of the triplet states associated with the united atomic orbitals (UAO's) 6-17pπ and 7-12pσ.
Marshall L. Ginter and Dorothy S. Ginter (Univ. of Maryland, College Park, Md.).
J. Chem. Phys. 48(5), 2284-91(1968).

49. Nonexponential decay of an atomic level.
Jacques Dupont-Roc, Nicole Polonsky, and Claude Cohen-Tannoudji (Fac. Sci., Lab. Spectrosc. Hertzienne E. N. S., Paris, Fr.).
C. R. Acad. Sci., Paris, Ser. A, B 266B(10), 613-16(1968) (Fr).

50. Reactions of electronically excited iodine atoms $I(5^2P_{1/2})$ with Cl_2, Br_2, ICl, and IBr.
R. J. Donovan, F. G. M. Hathorn, and D. Husain(Univ. Cambridge, Cambridge, Engl.).
Trans. Faraday Soc. 64(Pt. 5), 1228-39(1968).

51. Determination of electronic energy levels of molecules by 90° low-energy electron scattering.
Wei, Pax Samuel Pin (California Inst. of Technol., Pasadena, Calif.).
U. S. At. Energy Comm. 1967, (CALT-532-20), 282 pp.

52. Atomic and molecular calculations with the pseudopotential method. III. The theory of Li_2, Na_2, lithium hydride, sodium hydride, and potassium hydride.
Szasz, Levente; McGinn, George (Fordham Univ., New York, N. Y.).
J. Chem. Phys. 1968, 48(7), 2997-3008.

53. Experiments on the 2^3P state of helium. I. A measurement of the 2^3P_1-2^3P_2 fine structure.
    Pichanick, F. M. J.; Swift, R. D.; Johnson, C. E.; Hughes, V. W. (Yale Univ., New Haven, Conn.)
    Phys. Rev. 1968, 169(1), 55-78.

54. The structure of molecules at high temperatures.
    Bonham Russell A. (Univ. of Indiana, Bloomington, Indiana).
    U. S. At. Energy Comm. 1967, (COD-977-1), 4 pp. Avail Dept.; CFSTI from Nucl. Sci. Abstr. 1968, 22(6), 10203.

55. Cotton-Mouton effect in optically oriented vapors of alkali metals.
    Novikov, L. N. (Ural'sk, Politekh. Inst. im. Kirova, Sverdlovsk).
    Zh. Eksp. Teor. Fiz., Pis'ma Redaktsiyu 1967, 6(1), 473-6 (Russ). CA Vol. 69, 5385 (1968).

56. Dipole moments of some alkali halide molecules by the molecular beam electric resonance method.
    Herbert, A. J.; Lovas, F. J.; Melendres, C. A.; Hollowell, C. D.; Story, T. L., Jr.; Street, K., Jr. (Lawrence Rad. Lab., Univ. of California, Berkeley, Calif.).
    J. Chem. Phys. 1968, 48(6), 2824-5.

57. Factor of the lowest $^1P_1$ and $^3P_1$ states of barium; level-crossing determination of A $(^1P_1)/\mu_0 g_J(^1P_1)$ of mercury-199.
    Swagel, Michael W.; Lurio, Allen (Columbia Univ., New York, N. Y.).
    Phys. Rev. 1968, 169(1), 114-19.

58. Some intermediate coupling transition probabilities in calcium XV and iron XIII.
    House, Lewis L. (High Altitude Obs., Boulder, Colo.).
    Astrophys, J. 1967, 149(1), 211-16.

59. Kerr dispersion of atomic sodium and lithium.
    Bogaard, M. P.; Buckingham, A. D.; Orr, B. J. (Univ. Bristol, Engl.).
    Mol. Phys. 1967, 13(6), 533-45.

60. High resolution molecular spectra obtained with a Fabry-Perot photoelectric spectrometer and a hollow-cathode tube made up of an alloy; lanthanum oxide.
    Bacis, Roger (Univ. Lyon, Villeurbanne, Fr.).
    C. R. Acad. Sci., Paris, Ser. A, B 1968, 266B (16), 1071-4(Fr).

A. 61. The term systems of the neutral gallium and indium atoms derived from new measurements in the infrared region.
Johansson, Ingmar; Litzen, Ulf (Univ. Lund, Swed.).
Ark. Fys. 1967, 34(46), 573-87.

62. Measurement of absorption oscillator strengths of the chlorine I line in the vacuum ultraviolet region.
Hofmann, W. (Max-Planck-Inst. Extraterrest. Phys., Garching, Ger.).
Z. Naturforsch., A 1967, 22(12), 2097-101 (Ger).

63. Resonance transition probabilities in intermediate coupling for some neutral nonmetals.
Lawrence, G. M. (Princeton Univ. Obs., Princeton, N. J.).
Astrophys. J. 1967, 148(1), (Pt. 1), 261-8.

64. A new predissociation of the hydrogen molecule.
Herzberg, G. (Natl. Res. Council Canada, Ottawa, Can.).
Sci. Light (Tokyo) 1967, 16(1), 14-21.

65. Absorption spectrum of the nitric oxide molecule. VIII. The heterogeneous $^2\Sigma$-$^2\Pi$ interactions between excited states.
Jungen, Ch.; Miescher, E. (Univ. Basel, Basel, Switz.).
Can. J. Phys. 1968, 46(8), 98-7-1003.

66. Measurement of relative transition probabilities by using the Faraday effect.
Seka, W.; Curzon, F. L. (Univ. British Columbia, Vancouver, British Columbia).
J. Quant. Spectrosc. Radiat. Transfer 1968, 8(4), 1147-62.

67. Molecular iodine vibrational relaxation in iodine-helium and iodine-argon systems.
Kosynkii, V. D.; Generalov, N. A.
Vestn. Mosk. Univ., Ser. III 1967, 22(3), 110-11 (Russ).
CA Vol. 69, 6744 (1968).

68. Spectra of oxygen IV and oxygen V.
Bromander, Jan; Hohansson, Bertil; Bockasten, Kjell (Univ. Uppsala, Swed.).
J. Opt. Soc. Amer. 1967, 57(9). 1158-9.

69. Source of vacuum ultraviolet radiation based on the excitation of an ultrasonic gas jet by an electron beam.
Verkhovtseva, E. T.; Strel'nikov, V. P.; Sokolov, V. N.; Popov, B. N.
Zh. Prikl. Spektrosk. 1967, 7(6), 859-64 (Russ). CA Vol. 69, 6748 (1968).

70. The dipped cathode arc: a simple stable radiation source for line reversal temperature measurements.
Thomas, D. L. (Central Elec. Res. Lab., Leatherhead, Engl.).
J. Sci. Instrum. 1968 [2] 1(2), 150 (Eng).

71. Lifetimes of energy levels in neutral iron.
Corliss, C. H.; Tech, J. L. (Natl. Bur. of Stds., Washington, D. C.).
J. Res. Nat. Bur. Stand., A 1967, 71(6), 567-73.

72. Photoionization cross sections of calcium vapor.
Hudson, R. D.; Carter, Virginia L. (Aerospace Corp., El segundo, Calif.).
Astrophys. J. 1967, 149(1), 229-30.

73. Absorption spectra of monohydrogen antimony and monodeuterium antimony radicals.
Bollmark, P.; Lindren, B. (Univ. Stockholm).
Chem. Phys. Lett. 1967, 1(10), 480.

74. Spectra of antimony hydride radicals.
Basco, N.; Yee, K.K. (Univ. British Columbia, Vancouver, Can.).
Spectrosc. Lett. 1968, 1 (1), 13-15.

75. Spectra of arsenic hydride radicals.
Basco, N.; Yee, K. K. (Univ. British Columia, Vancouver, Can.).
Spectrosc. Lett. 1968, 1 (1), 17-18.

76. Spectrum of antimony chloride radical.
Basco, N.; Yee, K. K. (Univ. British Columbia, Vancouver, Can.).
Spectrosc. Lett. 1968, 1(1), 19-22.

77. Continuous spectrum of 1 atmosphere argon arc in the spectral region 2700-5000 A.
Guendel, H.; Neumann, W. (Deut. Akad. Wiss., Berlin).
Beitr. Plasma Phys. 1967, 7(3), 221-31 (Ger).

78. The 6 $^2P_{3/2}$ level of the barium ion; optical excitation from metastable 3 $^2D_{5/2}$ level of copper I.
Bucka, H. (Tech. Univ. Berlin-West).
Colloq. Int. Centre Nat. Rech. Sci. 1966 (Pub. 1967), No. 162, 131-7.

79. Spectroscopy in a membrance shockwave tube. III. Determination of the wavelengths of band heads of the chlorine atom affinity continuum.
Pietsch, G.; Rehder, L. (Univ. Kiel, Ger.).
Z. Naturforsch., A 1967, 22(12), 2127-9 (Ger).

A. 80. Pressure effects produced by helium on the mercury resonance line and potential curves of mercury plus helium.
Szudy, J. (N. Copernicus Univ., Torun, Poland).
Bull. Acad. Pol. Sci., Ser. Sci., Math., Astron. Phys. 1967, 15(4), 297-9.

81. Tanaka-Takamine Rydberg series of oxygen.
Ogawa, Masaru (Univ. of Southern California, Los Angeles, Calif.).
Can. J. Phys. 1968, 46(4), 312-13.

82. Atomic absorption cross sections of sodium, 500 to 600A.
Hudson, Robert D.; Carter, Virginia L. (Aerosp. Corp., Los Angeles, Calif.).
J. Opt. Soc. Amer. 1968, 58(3), 430-1.

83. The vibrational relaxation of iodine.
Kosynkin, V. D.; Generalov, N. A.
Fiz. Goreniya Vzryva 1966, (4), 62-7 (Russ). CA Vol. 69, 6779 (1968).

84. Vibrational quantum analysis of the orange bands of the diatomic calcium molecule.
Kovalenok, G. V.; Sokolov, V. A. (Tomsk. Politekh. Inst. im. Kirova, Tomsk, USSR).
Izv. Sib. Otd. Akad. Nauk USSR, Ser. Khim. Nauk 1967, (4), 118-20(Russ). CA Vol. 69, 6784 (1968).

85. Flame emission spectrum of stannous oxide molecule in the visible region.
Joshi, M. M.; Yamdagni, R. (Univ. Allahabad).
Indian J. Phys. 1967, 41(4), 275-85.

86. Radiative lifetimes of BBr and of ultraviolet emissions in electron-beam excited boron tribromide gas.
Lutz, Barry L.; Hesser, James E. (Princeton Univ., Princeton, N. J.).
J. Chem. Phys. 1968, 48(7), 3042-5.

87. Oscillator strength of the resonance triplet of atomic oxygen.
Parkes, David A.; Keyser, Leon F.; Kaufman, Frederick (Univ. of Pittsburgh, Pittsburgh, Pa.).
Astrophys. J. 1967, 149(1), 217-23.

88. Anomalous change of emission spectral intensity in the hollow cathode discharge.
Tsukamoto, Akira (Toyo Kogyo Co., Ltd., Hiroshima, Japan).
Jap. J. Appl. Phys. 1968, 7(1), 92-3. CA Vol. 69, 6806 (1968).

89. Plasma resonance emission excited by light from potassium foils.
Boesenberg, J. (Univ. Hamburg, Ger.).
Phys. Lett., A 1967, 26(2), 74-5.

90. Formation of vibrationally excited nitrous oxide in the reaction of nitrogen atoms with nitrogen dioxide.
Clough, P. N.; Thrush, B. A. (Univ. Cambridge, Cambridge, Engl.).
Discuss. Faraday Soc. 1967, No. 44, 205-7.

91. The emission spectrum of the cadmium monobromide molecule (the visible system).
Patel, M. M.; Patel. S. P. (M. S. Univ., Baroda).
Indian J. Phys. 1967, 41(3), 155-62.

92. Oscillator strengths for resonance lines of ions in the neon isoelectronic sequence.
Kastner, S. O.; Omidvar, K.; Underwood, J. H. (Goddard Space Flight Center, Greenbelt, Md.).
Astrophys. J. 1967, 148(1), Pt. 1, 269-73.

93. The barium antimonide photoemission.
Strakovskaya, S. E.; Aref'eva, I. S. (Leningr. Politekh. Inst. im. Kalinina, Leningrad).
Tr. Leningrad. Politekh. Inst. 1967, No. 277, 9-11 (Russ). CA Vol. 69, 6811 (1968).

94. Coherent anticrossing signals.
Budick, B.; Snir, J. (Hebrew Univ., Jerusalem).
Phys. Rev. Lett. 1968, 20(5), 177-80.

95. Measurement of half-lives of the neon I ^{3}p levels by using a positive neon ion beam.
Denis, Alain; Desesquelles, Jean; Dufay, Maurice (Fac. Sci. Lyon, Lab., Phys. Atmos., Villeurbanne, Fr.).
C. R. Acad. Sci., Paris, Ser. A, B 1968, 266B(15) 1016-19 (Fr).

96. Production of excited hydroxyl ($A^2\Sigma^+$) molecules by the association of ground-state oxygen and hydrogen atoms.
Ticktin, S.; Spindler, G.; Schiff, H. I. (York Univ., Toronto, Can.).
Discuss. Faraday Soc. 1967, No. 44, 218-25.

A.

97. Resonant broadening of double-resonance and level-crossing signals: applications to the $^3P_1$ state in mercury.
Omont, A.; Meunier, J. (Ecole Norm. Super., Paris, Fr.).
Phys. Rev. 1968, 169(1), 92-101.

98. Lifetime measurement of the $3d^94s4p^4P_{3/2}$ state of copper (I) spectrum with optical double resonance.
Kowalski, J.; Putlitz, G. Zu (Univ. Heidelberg, Ger.).
Z. Phys. 1967, 208(5), 459-63 (Ger).

99. Optical orientation of atoms and nuclei. Applications.
Bene, G. J.; Geneux, E. (Univ. Geneva, Switz.).
Ind. At. 1967, 11(3-4), 41-52 (Fr).

100. E.P. R. study of radicals formed in the gas phase by low energy electrons.
Mauclaire, Gerard; Marx, Rose (Lab. Chim. Phys., Fac. Sci., Orsay, Fr.).
J. Chim. Phys. Physico-chim. Biol. 1968, 65(2), 213-16 (Fr).

101. Spectra of calcium ions, Ca XV and Ca XVI, obtained during focussing of laser radiation on a target.
Basov, N. G.; Boiko, V. A.; Voinov, Yu. P.; Kononov, E. Ya.; Mandel'shtam, S. L.; Sklizkov, G. V. (Fiz. Inst. im. Lebedeva, Moscow, USSR).
Zh. Eksp. Teor. Fiz., Pis'ma Redaktsiyu 1967, 6(9), 849-51 (Russ). CA Vol. 69, 7173 (1968).

102. Tables of Spectral Lines of Neutral and Ionized Atoms (Tablitsy Spektral'nykh Linii Neitral'nykh i Ionizovannykh Atomov). Striganov, A. R.; Svettitskii, N. S. Atomizdat: Moscow. 1966. 898 pp.

103. Selective photochemistry of bromine using a ruby laser.
Tiffany, W. E. (Stanford Univ., Stanford, Calif.).
J. Chem. Phys. 1968, 48(7), 3019-31.

104. Flash photolysis and time-resolved mass spectrometry. II. Decomposition of methyl iodide and reactivity of $I(^2P_{1/2})$ atoms.
Meyer, Richard T. (Sandia Lab., Albuquerque, N. Mex.).
J. Phys. Chem. 1968, 72(5), 1583-91.

105. The nf and ng configurations of Ne II [neon ion].
Persson, Willy; Minnhagen, Lennart (Lund Inst. Technol., Lund, Swed.).
Ark. Fys. 1968, 37(22), 273-300.

106. Zeeman effect in erbium I.
Heilig, K.; Kircher, O. (Tech. Univ. Hannover, Hannover, Ger.).
Z. Phys. 1968, 212 (3), 243-7 (Ger).

107. Rotational structure of the spectra of diatomic molecules.
Kovacs, I. (Polytech. Univ., Budapest, Hung.).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 95-101.

108. Automatic computer analysis of electron vibrational-rotational spectra of diatomic molecules. III. Determination of types of branches and rotational quantum numbers of lines.
Kataev, D. I.; Malt'sev, A. A.
Zh. Prikl. Spektrosk. 1968, 8(2), 263-71 (Russ).
CA Vol. 69, 14110 (1968).

109. Atomic oscillator strengths. I. Neutral silicon.
Warner, Brian (Dep. Astrophys., Oxford, Engl.).
Mon. Notic. Roy. Astron. Soc. 1968, 139(1), 1-34.

110. Atomic oscillator strength. II. Neutral magnesium.
Warner, Brian (Dep. Astrophys., Oxford, Engl.).
Mon. Notic. Roy. Astron, Soc. 1968, 139(1), 103-13.

111. Atomic oscillator strengths. III. Alkali-like spectra.
Warner, Brian (Dep. Astrophys., Oxford, Engl.).
Mon. Notic. Roy. Astron. Soc. 1968, 139(1), 115-28.

112. Shock-tube measurements of chromium I and II gf values.
Wolnik, S. J.; Berthel, R. O.; Larson, G. S.; Carnevale, E. H.; Wares, G. W. (Panametrics, Inc., Waltham, Mass.).
Phys. Fluids 1968, 11(5), 1002-11.

113. Absorption spectrum of argon in the 1070-1135-A. region.
Wilkinson, P. G. (Div. Pure Phys., Nat. Res. Counc. Canada, Ottawa, Can.).
Can. J. Phys. 1968, 46(4), 315-18.

114. The analysis of a $^2A_1$-$^2B_1$ electronic band system of the AsH_2 and AsD_2 radicals.
Dixon, R. N.; Duxbury, G.; Lamberton, H. M. (Sheffield Univ., Sheffield, Engl.).
Proc. Roy. Soc., Ser. A 1968, 305(1481), 271-90.

115. High resolution electronic spectra of polyatomic molecules.
Innes, X. (Vanderbilt Univ., Nashville, Tenn.).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 219-21.

116. Dissociation of the carbon molecule by rotation.
Messerle, G.; Krauss, L. (DVL-Inst. Raketentreibstoffe, Abt. Spektroskopie, Stuttgart, Ger.).
Z. Naturforsch., A 1967, 22(12), 2023-6 (Ger).

A. 117. Strengths, widths, and shapes of the oxygen lines near 7600 A.
Burch, Darrell E.; Gryvnak, David A. (Philco-Ford Corp., Newport Beach, Calif.).
U. S., Clearinghouse Fed. Sci. Tech. Inform. 1967, PB 174950. Avail. CFSTI, 35 pp. (Eng). U. S. Govt. Develop. Rep. 1967, 67(17), 15.

118. Magnetic resonances in a mercury discharge.
May, A. D.; Leung, C. Y. (Univ. Toronto, Can.).
Colloq. Int. Centre Nat. Res. Sci. 1966, (Pub. 1967), No. 162, 167-9, discussion 170.

119. Absorption spectra of activated nitrogen and oxygen in the 600-1100-A. region.
Tanaka, Y. (Air Force Cambridge Res. Labs., Bedford, Mass.).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 90-4.

120. Emission bands of nitrogen sulfide and phosphorus sulfide.
Narasimham, N. A.; Subramanian, R. K. B. (Bhabha At. Res. Centre, Trombay, Bombay).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 108-10.

121. Visible spectrum of the phosphoryl molecule.
Verma, R. D. (Univ. New Brunswick, Fredericton, Can.).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 111-14.

122. Double electron molecular states of mercury-thallium.
Winans, J. G.; Santaram, C.; Pearce, W. J. (State Univ. of New York, Buffalo).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 149-52.

123. Measurement of the lifetime of atomic excited levels by time analyzer.
Bakos, J.; Szigeti J. (Cent. Res. Inst. Phys., Budapest, Hung.).
Acta Phys. Acad. Sci. Hung. 1967, 23(4), 341-7.

124. Rotational analysis of the 0-0 band of the $A^3\Pi_{inv} - X^3\Sigma^-$ system of ND.
Krishnamurty, G.; Narasimham, N. A. (Spectrosc. Div., Bhabha At. Res. Centre, Trombay, India).
Proc. Indian Acad. Sci., Sect. A 1968, 67(1), 50-60.

125. Selective enhancement of the $b'^1\Sigma_u^+ \rightarrow X^1\Sigma_g^+$ and $g^1\Sigma_u^+ \rightarrow X^1\Sigma_g^+$ band systems of nitrogen in the vacuum ultraviolet region.
Tanaka, Yoshio; Nakamura, Masatoshi (Air Force Cambridge Res. Labs., Bedford, Mass.).
Sci. Light (Tokyo) 1967, 16(2), 73-90.

126. The spectrum oxygen IV.
Bromander, Jan (Uppsala Univ., Uppsala, Swed.).
U. S. At. Energy Comm. 1967, UUIP-540. Avail. Dep., 33 pp. (Eng). From Nucl. Sci. Abstr. 1967, 21(20), 37103.

127. Rotational analysis of some bands of $C^1\Sigma_u^+ - X^1\Sigma_g^+$ system of diphosphorus molecule involving low v' , v'' values.
M. N Dixit, (Bahbha At. Res. Centre, Modular Lab., Trombay, India).
Proc. Indian Acad. Sci., Sect. A 1967, 66(6), 325-41.

128. New interpretation of the $^1\Sigma_u^+$ and $^1\Pi_u$ Rydberg and valence states of nitrogen below the first ionization limit.
Dressler, Kurt (Princeton Univ., Princeton, N. J.).
Proc. Int. Conf. Spectrosc., 1st. Bombay 1967, 1, 104-7.

129. New emission band systems of chlorine in the vacuum ultraviolet λ1360-λ1200.
Haranath, P. B. V.; Rao, P. Tiruvenganna; Surynanarayana, V. (Andhra Univ., Waltair, India).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 119-24.

130. The rotational analysis of the B-X system of lead fluoride in the ultraviolet.
Reddy, Y. Prabhakara; Rao, P. Tiruvenganna (Andhra Univ., Waltair, India).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 129-32.

131. Rotational analysis of $A-X_1$ band system of lead fluoride molecule.
Singh, O. N.; Singh, I. S. (Banaras Hindu Univ., Varanasi, India).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 133-7.

132. The nf and ng configurations of Ne II.
Minnhagen, Lennart; Persson, Willy (Lund Inst. Technol., Lund, Swed.).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 2-5.

133. Rotational analysis of the visible A-X system of the bismuth monobromide molecule.
Murty, P. Sreenivasa; Rao, P. Tiruvenganna (Andhra Univ., Waltair, India).
Curr. Sci. 1968, 37(6), 161-2.

134. A new ultraviolet band system of bismuth fluoride in absorption.
Maheshwari, R. C.; Sharma, D. (Univ. Gorakhpur, India).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 138-41.

135. Rotational analysis of the 0-0 band of the $A^3\ \Pi_{inv}$ - $X^3\Sigma^-$ system of ND.
Krishnamurthy, G.; Narasimham, N. A. (Bhabha At. Res. Centre, Trombay, India).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 142-4.

136. Molecular absorption spectra in flash discharges.
Herzberg, G. (Nat. Res. Council Can., Ottawa).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 158-63.

137. Spectroscopic determination of dissociation energy of the dicarbon molecule from the $^3\Pi_g$ terms.
Messerle, G.; Krauss, L.(Inst. Raketentreibstoffe, Abt. Spektroskopie, Stuttgart, Ger.).
Z. Naturforsch., A 1967, 22(11), 1744-8 (Ger).

138. Quantum rotational analysis of orange bands of the dicalcium molecule.
Kovalenok, G. V.; Sokolov, V. A. (Tomsk. Politekh. Inst. im. Kirova, Tomsk, USSR).
Izv. Vyssh. Ucheb. Zaved., Fiz. 1968, 11(3), 27-30 (Russ).
CA Vol. 69, 14502 (1968).

139. Arc spectrum of lead.
Wood, David R.; Andrew, Kenneth L. (Purdue Univ., Lafayette, Indiana).
J. Opt. Soc. Amer. 1968, 58(6), 818-29.

140. Lifetimes and decay cross sections of electronically excited states of N_2O^+, nitric oxide, $O_2{}^+$, CO^+ and carbon monoxide.
Fink, E. H.; Welge, K. H. (Univ. Bonn, Bonn, Ger.).
Z. Naturforsch., 1968, A23, 358-76 (Ger).

141. The size and shape of an excited molecule.
Coulson, C. A. (Math. Inst., Oxford, Engl.).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 168-70.

142. First ultraviolet absorption spectrum of dicyanogen, C_2N_2, $a^3\Sigma_u{}^+$ - $X^1\Sigma_g{}^+$.
Callomon, J. H.; Davey, A. B. (Univ. Coll., London).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 173-5.

143. Electronic emission spectrum of N_2O^+: $A^2\Sigma^+$ -$X^2\Pi_i$.
Callomon, J. H.; Creutzberg, F. C. (Univ. Coll., London).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 171-2.

144. Rotational analysis of the high pressure carbon bands at 4368.8 A. and 4680.2 A.
Dhumwad, R. K.; Narasimham, N. A. (Bhabha At. Res. Centre, Trombay, Bombay).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 59-61.

145. New spectra of oxygen and oxygen-like molecules.
Douglas, A. E. (Natl. Res. Council, Ottawa, Can.).
Proc. Int. Conf. Spectrosc., 1st Bombay 1967, 1, 81-4.

146. Selectivity characteristics of NBr ($^1\Sigma^+$-$^3\Sigma^-$) bands in active nitrogen reactions.
Tawde, N. R.; Itagi, Sharada (Marathwada Univ., Aurangabad, India).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 76-9.

147. Kinetic and spectroscopic constraints on the origin of the nitrogen afterglow.
Benson, S. W. (Aerospace Corp., El Segundo, Calif.).
U. S., Clearinghouse Fed. Sci. Tech. Inform. 1967, AD655378.
Avail. CFSTI, 15 pp. (Eng). From U. S. Govt. Res. Develop. Rep. 1967, 67(18), 58.

148. A new $c'^1\Pi_g$ $-b^1\Pi_u$-band system of the diatomic carbon molecule.
Messerle, G.; Krauss, L. (DVL-Inst. Raketentreibstoffe, Abt. Spektroskopie, Stuttgart, Ger.).
Z. Naturforsch., A 1967, 22(12), 2015-23 (Ger).

149. Isotope shift studies in the ultraviolet and visible band systems of phosphoryl-oxygen-16 and phosphoryl-oxygen-18.
Dixit, M. N.; Narasimham, N. A. (Bhabha At. Res. Centre, Trombay, Bombay).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 115-18.

150. Research in atomic and molecular properties by the molecular beam method.
Kusch, P. (Columbia Radiation Lab., New York, N. Y.).
U. S., Clearinghouse Fed. Sci. Tech. Inform. 1967, AD 656734.
Avail. CFSTI, 10 pp. (Eng). From U. S. Govt. Res. Develop. Rep. 1967, 67(19), 53.

151. Research on an atomic level of mercury by optical Hertzian spectroscopy.
Popescu, I. M. (Inst. Fiz. At., Bucharest, Rom.).
Stud. Cercet. Fiz. 1968, 20(1), 25-90 (Rom).

152. $4f^{13}fd^2$ configuration of singly ionized ytterbium (Yb II).
Spector, Nissan (Israel At. Energy Comm., Soreq Nucl. Res. Centre, Yavne, Israel).
J. Opt. Soc. Amer. 1968, 58(6), 837-42.

A. 153. An E.P.R. study of the oxygen $(^1\Delta_g)$ molecule.
Falick, Arnold M. (Univ. of California, Lawrence Radiation Lab., Berkeley).
U. S. At. Energy Comm. 1967, UCRL-17453. Avail. Dep.; CFSTI, 83 pp. (Eng). From Nucl. Sci. Abstr. 1967, 21(20), 38855.

154. Optical-pumping effects in level-crossing measurements.
Baylis, W. E. (Max-Planck-Inst. Extraterr. Phys., Garching/Munich, Ger.).
Phys. Lett., A 1968, 26(9), 414-15.

155. Spectral Line Formation.
Jefferies, John T. Blaisdell: Waltham, Mass. 1968. 298 pp. $10.50.

156. Dicyanogen-oxygen flames.
Albers, E. A.; Homann, K. H. (Univ. Goettengen, Goettengen, Ger.).
Z. Phys. Chem. (Frankfurt am Main) 1968, 58(1-4), 220-2 (Ger).

157. Compendium of ab initio calculations of molecular energies and properties.
Krauss, Morris (Phys. Chem. Div., Nat. Bur. of Stand., Washington, D. C.).
Nat. Bur. Stand. (U. S.), Tech. Notes 1967, No. 438, 139 pp.

158. The reactions of ions and excited atoms of the inert gases.
Brocklehurst, B. (Univ. Sheffield, Sheffield, Engl.).
Quart. Rev. (London) 1968, 22(2), 147-59.

159. Molecular orbital approach to electronegativity equalization.
Baird, N. C.; Sichel, J. M.; Whitehead, M. A. (McGill Univ., Montreal, Can.).
Theor. Chim. Acta 1968, 11(1), 38-50.

160. A simple approach to molecular bonding theory. III. Molecular orbital theory.
Perkins, P. G. (Univ. Newcastle upon Tyne, Engl.).
Sch. Sci. Rev. 1967, 49(167), 160-9.

161. Quantum mechanical study of molecules: prediction of the ground, ionized, and excited states of the unknown NF molecule.
Sahni Roop C. (New York Univ., New York, New York).
NASA (Nat. Aeronaut. Space Admin.), Contract. Rep. 1967, CR-688, 22 pp.

162. Spectroscopy, quantum chemistry, and molecular physics.
Mulliken, Robert S. (Univ., of Chicago, Chicago, Ill.).
Phys. Today 1968, 21(4), 52-7.

163. Calculation of the electron affinity of boron.
Schaefer, Henry F., III; Harris, Frank E. (Stanford Univ., Stanford, Calif.).
Phys. Rev. 1968, 170(1), 108-15.

164. Experimental determination of the matrix element of the electronic transition dipole moment in the first negative band system of the N_2^+ molecule by using an arc discharge in an axially vortical air stream.
Kiselevskii, L. I.; Schimanovich, V. D. (USSR).
Opt. Spektrosk. 1968 24(4), 506-12 (Russ). CA Vol. 69, 22961 (1968).

165. Accurate partition functions and dissociation equilibrium constants of diatomic molecules of astrophysical interest.
Tatum, J. B. (York Univ., Toronto, Can.).
Publ. Dominion Astrophys. Observ., Victoria, B. C. 1966, 13(1), 17 pp.

166. The CN red system in the solar spectrum.
Lambert, D. L. (Univ. Observ., Oxford, Engl.).
J. Quant. Spectrosc. Radiat. Transfer 1968, 8(6), 1265-79.

167. Zeeman effect in the (0,0) band of OD.
Thakur, S. N.; Rai, D. K.; Singh, N. L. (Banaras Hindu Univ., Varanasi, India).
J. Chem. Phys. 1968, 48(8), 3389-95.

168. A measurement of some energy levels and lifetimes for collisionally excited boron.
Luther, Marvin LeRoy (Virginia Polytech. Inst., Blacksburg, Va.). 1967, 46 pp. (Eng). Avail. Univ. Microfilms, Ann Arbor, Mich., Order No. 68-2058. From Diss. Abstr. B. 1968, 28(9), 3851-2.

169. The electronic isotope shift in the Lyman bands of hydrogen, hydrogen-d_1, d_2.
Wilkinson, P. G. (Div. Pure Phys., Nat. Res. Counc. Canada, Ottawa, Can.).
Can. J. Phys. 1968, 46(10)(Pt. 1), 1225-35.

A. 170. Lifetime and oscillator strengths for the $^3P_1^\circ$ atomic states of lead and tin.
DeZafra, R. L.; Marshall, Alan (State Univ. of New York, Stony Brook, N. Y.).
Phys. Rev. 1968, 170(1), 28-36.

171. A laboratory investigation of the spectra of highly ionized sulfur, chlorine, argon, potassium, and calcium.
Deutschman, William Alan (Univ. of Colorado, Boulder, Colo.). 1967, 148 pp. (Eng). Avail. Univ. Microfilms, Ann Arbor, Mich., Order No. 68-2645. From Diss. Abstr. B. 1968, 28(9), 3820-1.

172. Relative oscillator strengths for lines of terbium I.
Corliss, C. H. (Nat. Bur. of Stand., Washington, D. C.).
J. Quant. Spectrosc. Radiat. Transfer 1968, 8(5), 1185-91.

173. gf values of ultraviolet iron I, chromium I, and chromium II lines from shock-tube measurements.
Huber, Martin; Tobey, Frank L., Jr. (Harvard Coll. Observ., Harvard, Mass.).
Astrophys. J. 1968, 152(2)(Pt. 1), 609-20.

174. Population of excited levels of atoms and ions: electron temperature and density from relative line intensities of the ions, C IV, N V, and O VI.
Suckewer, S. (Inst. Nucl. Res., Warsaw, Poland).
Phys. Rev. 1968, 170(1), 239-44.

175. Determination of the dissociation energy of the fluorine molecule and its band spectrum.
Stricker, W.; Krauss, L. (DVL-Inst. Raketentreibstoffe, Abt. Spektrosk., Stuttgart-Vaihingen, Ger.).

176. Rotational analyses of the $D^2\Pi-X^2\Pi$ and $D'^2\Pi-X^2\Pi$ ultraviolet systems of PO.
Couet, Claude; Coquart, Bernard; Ngo Tuan Anh; Guenebaut, Henri (Lab. Chim. Phys., Struct. Mol., Spectrosc., Fac. Sci., Reims, Fr.).
C. R. Acad. Sci., Paris, Ser. A,B 1968, 266B(18), 1219-21 (Fr).

177. Emission spectra of certain polyatomic free radicals obtained in electrical discharges through boron tribluoride.
Krishnamachari, S. L. N. G.; Narasimham, N. A.; Singh, Mahavir (Bhabha At. Res. Centre, Trombay, Bombay).
Proc. Int. Conf. Spectrosc., 1st, Bombay 1967, 1, 181-4.

178. Determination of relative values of oscillator strength in copper atom spectrum.
Alekseev, M. A.; Vereshchagina, O. Yu. (Yakutsk. Geol. Upr., Yakutsk).
Spektral. Anal. Geol. Geokhim., Mater. Sib. Soveshch. Spektrosk., 2nd, [Irkutsk], USSR 1963 (Pub. 1967), 79-81 (Russ). CA Vol. 69, 23384 (1968).

179. Relation between the lifetime of the excited state and emission and absorption spectra of polyatomic molecules.
Mikhelashvili, M. S.; Rozman, I. M. (USSR).
Opt. Spektrosk. 1968, 24(5), 714-17 (Russ). CA Vol. 69, 23396 (1968).

180. Measurement of nanosecond fluorescence decay times.
Mack, M. E. (United Aircraft Res. Lab., East Hartford, Conn.).
J. Appl. Phys. 1968, 39(5), 2483-5.

181. Extensions to the spark spectra of zinc. I. Zinc II and zinc IV.
Crooker, A. M.; Dick, K. A. (Univ. British Columbia, Vancouver, British Columbia).
Can. J. Phys. 1968, 46(19)(Pt. 1), 1241-51.

182. Photo-attenuation cross sections of xenon atoms and xenon diatomic molecules between 1050 and 1550 A.
Shardanand (Meas. Instrum. Tech. Lab., NASA, Cambridge, Mass.).
J. Quant. Spectrosc. Radiat. Transfer 1968, 8(6), 1373-8.

183. Triplet states of acetylene by electron impact.
Trajmar, S.; Rice, J. K.; Wei, P. S. P.; Kuppermann, A. (California Inst. of Technol., Pasadena, Calif.).
Chem. Phys. Lett. 1968, 1(13), 703-5.

184. Quantum mechanical study of molecules: transition probabilities Einstein A coefficients, and oscillator strengths of some band systems of diatomic molecules.
Jain, D. C.; Sahni, R. C. (New York Univ., New York, N. Y.)
NASA (Nat. Aeronaut. Space Admin.), Contract, Rep. 1967, CR-975, 43 pp.

185. Vibrational and rotational energies for the $B^1\Sigma_u$, $C^1\Pi_u$, and $a^3\Sigma_g^+$ states of the hydrogen molecule.
Kolos, W.; Wolniewicz, L. (Univ. of Chicago, Chicago, Ill.).
J. Chem. Phys. 1968, 48(8), 3672-80.

A. 186. Spectrograph design, 1918-68.
Learner, R. C. M. (Imp. Coll., London, Engl.).
J. Sci. Instrum. 1968, [2] 1(6), 589-94.

187. Calculation of the rotation and vibration constants of diatomic molecules.
Guerin, Bernard (Mec. Ondulatoire Appl., Villeurbanne, Fr.).
J. Phys. (Paris) 1968, 29(4), 279-86 (Fr).

188. Oscillator strengths for high-level transitions in hydrogen.
Menzel, Donald H. (Harvard Coll. Observ., Cambridge, Mass.).
Nature 1968, 218(5143), 756-7.

189. The spark spectra of zinc. II. Zinc III.
Dick, K.A. (Univ. British Columbia, Vancouver, British Columbia).
Can. J. Phys. 1968, 46(11), 1291-302.

190. Optical detection of stimulated emission in cyano radical at 20-cm. wavelength.
Evenson, Kenneth M. (Nat. Bur. of Stand., Boulder Colo.).
Appl. Phys. Lett. 1968, 12(8), 253-4.

191. Spectra of arsenic, As III, and selenium, Se VIII, in the vacuum ultraviolet region of the spectrum.
Zvereva, L. I.; Kononov, E. Ya.
Opt. Spektrosk. 1968, 24(5), 827-9 (Russ); CA Vol. 69, 31731 (1968).

192. Spectra of titanium V, Vi, and VII in the region 100-400A.
Svensson, Lars Ake; Ekberg, Jan Olof (Univ. Lund, Lund, Swed.).
Ark. Fys. 1968, 37(7), 65-84.

193. The $A^1\pi$-$X^1\Sigma$ transition of ^{10}BCl and the $a^3\pi 0^-$-$X^1\Sigma^+$ transition of GaH.
Poynor, Paul Clifton (Vanderbilt Univ., Nashville, Tenn.).
1967, 109 pp. (Eng). Avail. Univ. Microfilms, Ann Arbor, Mich., Order No. 68-5397. From Diss. Abstr. B. 1968, 28(10), 4094.

194. Excitation of the higher rotational level of dimolecular carbon bands.
Messerle, G. (DVL-Inst. Raketentreibstoffe, Abtlg. Spektrosk., Stuttgart, Ger.).
A. Naturforsch., A 1968, 23(3), 470 (Ger).

195. The spectrum of atomic calcium, calcium I, and extensions
to the analysis of calcium II.
Risberg, Gerd (Lund Inst. Technol., Lund, Swed.).
Ark. Fys. 1968, 37(18), 231-49.

196. Oscillator strengths and transition probabilities for
3288 lines of iron I (2100-9900 A.).
Corliss, C. H. ; Tech, J. L. (Inst. for Basic Standards
Nat. Bureau of Standards, Washington, D. C.).
Nat. Bur. Stand. (U.S.), Monogr. 1968, No. 108, 66 pp.

197. Radiative lifetimes of atomic cesium and molecular iodine.
Wolff, Richard James (Univ. of California, Berkeley, Calif.).
1967, 90 pp. (Eng). Avail. Univ. Microfilms, Ann Arbor,
Mich., Order No. 68-5849. From Diss. Abstr. B. 1968,
28(10), 4261.

198. Experimentally determined lifetimes of [the 4^1D term of]
magnesium and [the 4^1F° term of] calcium.
Karstensen, Frithjof; Schramm, Juergen (Univ. Kiel, Kiel,
Ger.).
Z. Astrophys. 1968, 68(3), 214-21 (Ger).

199. Lifetime of the 2^1P state of helium.
Williams, W. L.; Fry, E. S. (Univ. of Michigan, Ann Arbor,
Mich.).
Phys. Rev. Lett. 1968, 20(24), 1335-6.

200. Pulsed superluminescence on the green line of thallium in
thallium iodide vapors.
Isaev, A. A.; Petrash, G. G. (Fiz. Inst. im. Lebedeva,
Moscow, USSR).
Zh. Eksp. Teor. Fiz., Pis'ma Redaktsiyu 1968, 7(6),
204-7 (Russ). CA Vol. 69, 31813 (1968).

201. The excitation mechanism of the bicarbon molecule high-pressure bands.
Naegeli, D. W.; Palmer, H. B. (Pennsylvania State Univ.,
University Park, Pa.).
J. Mol. Spectrosc. 1968, 26(1), 152-4.

202. Lifetime measurement of molecular states with an accelerated
ion beam.
Desesquelles, J.; Dufay, M.; Poulizac, M. C. (Lab. Phys.
Atmos., Fac. Sci. Lyon, Lyons, Fr.).
Phys. Lett., A 1968, 27(2), 96-7.

A. 203. Energy level calculations for singly ionized hafnium.
Mehlhorn, Rolf (Lawrence Radiat. Lab., Univ. of California, Berkeley, Calif.).
U. S. At. Energy Comm. 1968, UCRL-18040, 147 pp. (Eng).
Avail. Dep.; CFSTI. From Nucl. Sci. Abstr. 1968, 22(3), 15330.

204. Spectra and structures of triatomic free radicals.
Herzberg, G. (Nat. Res. Counc. Canada, Ottawa, Ont.).
Advan. Photochem. 1968, 5, 1-19.

205. Ultraviolet cross section measurements on molecular alkali metal vapors.
Creek, D. M.; Marr, G. V. (Reading Univ., Whiteknights, Engl.).
J. Quant. Spectrosc. Radiat. Transfer 1968, 8(7), 1431-6.

206. Intensities of 2288 A. and 3261 A. Radiation from low-pressure cadmium rare-gas discharges.
Springer, R. H.; Barnes, B. T. (Lighting Res. Lab., Gen. Elec. Co., Cleveland, Ohio).
J. Appl. Phys. 1968, 39(7), 3100-4.

207. Rotational analysis of the visible absorption bands of fluorine chloride and determination of the v' numbering.
Sticker, Winfred (Deut. Versuchsanst. Luft-Raumfahrt, E. V., Stuttgart-Vaihingen, Ger.).
Deut. Luft-Raumfahrt. Forschungber. 1966, DLR-FB-66-04, 45 pp. (Ger).

208. Polarization of atomic fluorescence excited by molecular dissociation.
Van Brunt, R. J.; Zare, R. N. (Joint Inst. for Lab. Astrophys., Boulder, Colo.).
J. Chem. Phys. 1968, 48(9), 4304-8.

209. Shock-tube study of the radiative combination of oxygen atoms by inverse predissociation.
Myers, B. F.; Bartle, E. R. (Space Sci. Lab., Gen. Dyn./Convair, San Diego, Calif.).
J. Chem. Phys. 1968, 48(9), 3935-44.

210. Transient species in the photolysis of sulfur monochloride, including $S_2(a^1\Delta_g)$.
Donovan, R. J.; Husain, D.; Jackson, P. T. (Univ. Cambridge Cambridge, Engl.).
Trans. Faraday Soc. 1968, 64(7), 1798-805.

Reactions between gases and condensed phases

1. Vaporization of components of zirconia ceramics.
   D. S. Rutman, I. L. Shchetnikova, R. S. Ignatova, and G. A. Smenov (Vost. Inst. Ogneuporov, Sverdlovsk, USSR).
   Ogneupory 33(1), 49-52(1968)(Russ). CA Vol. 68, 116934 (1968).

2. The solubility of albite in supercritical water in the range 400 to 600° and 750 to 3500 bars.
   Currie, K. L. (Geol. Surv. Canada, Ottawa, Can.).
   Amer. J. Sci. 1968, 266(5), 321-41.

3. Experiments on the upper stability limit of pyrophyllite at 1.8 kilobars and 3.9 kilobars water pressure.
   Kerrick, Derrill M. (Univ. of California, Berkeley, Calif.).
   Amer. J. Sci. 1968, 266(3), 204-14.

4. Determination of the oxygen activity in molten metal from data on the equilibrium of sulfur distribution.
   Sazonov, M.L.; Merkulov, Yu. M.
   Sb. Tr. Tsent. Nauch.-Issled. Inst. Chern. Met. 1967, No. 50, 91-5 (Russ). CA Vol. 69, 4519 (1968).

5. Sulfur in liquid iron alloys. I. Binary iron-sulfur.
   Banya, Shiro; Chipman, John (Massachusetts Inst. of Technol., Cambridge, Mass.).
   Trans. Met. Soc. AIME (Amer. Inst. Mining, Met., Petrol. Eng.) 1968, 242(5), 940-6.

6. Use of chemical analysis to study the decarburization of steel by high-pressure hydrogen.
   Asviyan, M. B.; Buntushkina, G. K. (Irkutsk. Filial Giproneftemash, Irkutsk, USSR).
   Zh. Fiz. Khim. 1968, 42(3), 624-7 (Russ). CA Vol. 69, 4530 (1968).

7. High-temperature evaporation of monocarbide phases of subgroups IV-V transition metals from an exposed surface into a vacuum. I. Behavior of a niobium monocarbide phase during evaporation from an exposed surface into a vacuum in the range 2453-3428°K.
   Nikol'skaya, T. A.; Vil'k, Yu. N.; Avarbe, R. G. (Gos. Inst. Prikl. Khim., Leningrad, USSR).
   Teplofiz. Vys. Temp. 1968, 6(1), 169-74 (Russ). CA Vol. 69, 4698 (1968).

8. Oxygen-alloying element interactions in liquid silver.
   Lupis, Claude H. P.; Elliott, John F. (Massachusetts Inst. of Technol., Cambridge, Mass.).
   Trans. Met. Soc. AIME (Amer. Inst. Mining, Met., Petrol. Eng.) 1968, 242(5), 929-35.

B. 9. The solubility of oxygen in liquid silver-gold, silver-platinum, and silver-palladium alloys.
Shah, I. D.; Parlee, N. A. D. (Stanford Univ., Stanford, Calif.).
Trans. Met. Soc. AIME (Amer. Inst. Mining, Met., Petrol. Eng.) 1968, 242(5), 869-75.

10. Thermogravimetric determination of the composition-oxygen partial pressure diagram of wustite ($Fe_{1-y}O$).
Bransky, I.; Hed, A. Z. (Technion, Israel Inst. Technol., Haifa, Israel).
J. Amer. Ceram. Soc. 1968, 51(4), 231-2.

11. Mass-spectrometric and torsion effusion studies of the evaporation of liquid selenium.
Yamdagni, R.; Porter, R. F. (Cornell Univ., Ithaca, N. Y.).
J. Electrochem. Soc. 1968, 115(6), 601-4.

12. Evaporation of antimony from platinum-antimony.
Lowe, R. M. (C.S.I.R.O., Melbourne, Aust.).
J. Appl. Phys. 1968, 39(5), 2476-7.

13. Supercritical water.
Franck, E. U. (Univ. Karlsruhe, Karlsruhe, Ger.).
Endeavour 1968, 27(101), 55-9.

14. The vapor pressure and enthalpy of vaporization of molten aluminum bromide to the critical point.
Johnson, J. W.; Silva, W. J.; Cubicciotti, Daniel (Stanford Res. Inst., Menlo Park, Calif.).
J. Phys. Chem. 1968, 72(5), 1669-72.

15. Vaporization of ytterbium dicarbide.
Haschke, John M.; Eick, Harry A. (Michigan State Univ., East Lansing, Mich.).
J. Phys. Chem. 1968, 72(5), 1697-702.

16. Thermal release of inert gases from tungsten: dependence on the crystal face bombarded.
Kornelsen, E. V.; Sinha, M.K. (Nat. Res. Counc. Canada, Ottawa, Can.).
Can. J. Phys. 1968, 46(6), 613-19.

17. Thermal desorption of gas embedded in copper single crystals.
Jokic, T.; Perovic, B. (Boris Kidrich Inst. Nucl. Sci., Belgrade, Yugoslavia).
Can. J. Phys. 1968, 46(6), 635-9.

B. 18. Surface energy and evaporation rate of spherical particles of radii less than 500 A.
Blackman, M.; Lisgarten, N. D.; Skinner, L. M. (Imp. Coll., London, Engl.).
Nature 1968, 217(5135), 1245-6.

19. Near-equilibrium kinetics of the dissociation of cupric oxide.
Rigdon, M. A.; Grace, R. E. (Purdue Univ., Lafayette, Indiana).
Trans. Met. Soc. AIME (Amer. Inst. Mining, Met., Petrol. Eng.) 1968, 242(5), 822-5.

20. Equilibrium vapor pressure over the melt of the indium phosphide and arsenide solid solution.
Ugai, Ya. A.; Goncharov, E. G.; Bityutskaya, L. A. (Voronezhsk. Gox. Univ., Voronezh).
Izv. Akad. Nauk SSSR, Neorg. Mater. 1967, 3(9), 1555-60 (Russ).
CA Vol. 69, 5638 (1968).

21. Critical temperature and coexistence curve for aluminum bromide.
Johnson, J. W.; Silva, W. J.; Cubicciotti, Daniel (Stanford Res. Inst., Menlo Park, Calif.).
J. Phys. Chem. 1968, 72(5), 1664-8.

22. Thermal dissociation of iridium triiodide.
Kolbin, N. I.; Samoilov, V. M. (Leningrad. Gos. Univ., Leningrad, USSR).
Zh. Neorg. Khim. 1968, 12(4), 915-18 (Russ). CA Vol. 69, 5701 (1968).

23. Application of a solid electrolytic cell for measuring equilibrium P_{O_2} over liquid metal-oxygen solutions.
El-Naggor, M. M.; Horsley, G. B.; Parlee, N. A. D. (Stanford Univ., Palo Alto, Calif.).
Trans. Met. Soc. AIME (Amer. Inst. Mining Met., Petrol. Eng.) 1967, 239(12), 1994-6.

24. Physicochemical study of the gallium (III) chloridemetal chloride system. III. Vapor pressures over $GaCl_3$-MCl systems (M = Rb, Cs).
Arbekov, V. N.; Petrov, E. S. (Inst. Fiz.-Khim. Osnov Pererab. Mineral. Syr'ya, Novosibirsk).
Izv. Sib. Otd. Akad. Nauk SSSR, Ser. Khim. Nauk 1967, (3), 50-6 (Russ). CA Vol. 69, 5720 (1968).

25. Evaluation of Knudsen measurements of the sublimation of manganese (II) selenide.
Wiedemeier, Heribert; Goyette, William J. (Rensselaer Polytech. Inst., Troy, N. Y.).
J. Chem. Phys. 1968, 48(7), 2936-41.

B. 26. Mass spectrometric studies at high temperatures. XXVII. The reactions of aluminum vapor with S_2(g), Se_2(g), and Te_2(g).
Ficalora, P. J.; Hastie, J. W.; Margrave, J. L. (Rice Univ., Houston, Tex.).
J. Phys. Chem. 1968, 72(5), 1660-3.

27. Dissociation energy of PN and other thermodynamic properties for the vaporization of P_3N_5.
Uy, O. Manuel; Kohl, Fred J.; Carlson, K. Douglas (Case Western Reserve Univ., Cleveland, Ohio).
J. Phys. Chem. 1968, 72(5), 1611-16.

28. Dissociation energies of Group VIa gaseous homonuclear diatomic molecules. I. Sulfur.
Budininkas, P.; Edwards, R. K.; Wahlbeck, P. G. (Illinois Inst. of Technol., Chicago, Ill.).
J. Chem. Phys. 1968, 48(7), 2859-66.

29. Dissociation energies of Group VIa gaseous homonuclear diatomic molecules. II. Selenium.
Budininkas, P.; Edwards, R. K.; Wahlbeck, P. G. (Illinois Inst. of Technol., Chicago, Ill.).
J. Chem. Phys. 1968, 48(7), 2867-9.

30. Dissociation energies of Group VIa gaseous homonuclear diatomic molecules. III. Tellurium.
Budininkas, P.; Edwards, R. K.; Wahlbeck, P. G. (Illinois Inst. of Technol., Chicago, Ill.).
J. Chem. Phys. 1968, 48(7), 2870-3.

31. Thermodynamics of formation of calcium bisilicide.
Zviadadze, G. N.; Kereselidze, M. V.
Tr. Inst. Met. Akad. Nauk Gruz. SSSR 1966, 15, 88-90 (Russ).
CA Vol. 69, 5757 (1968).

32. The uranium-nitrogen system.
Katsura, Masahiro; Sano, Tadao (Osaka Univ., Osaka, Japan).
J. Nucl. Sci. Technol. (Tokyo) 1967, 4(6), 283-8. CA Vol. 69, 5762 (1968).

33. Thermodynamics of reduction of rubidium chloride with calcium silicide.
Zviadadze, G. N.; Shengeliya, O. V.
Tr. Inst. Met. Akad. Nauk Gruz. SSSR 1966, 15, 44-9 (Russ).
CA Vol. 69, 5764 (1968).

34. Thermodynamics of reduction of cesium chloride with calcium silicide.
Zviadadze, G. N.; Shengeliya, O. V.
Tr. Inst. Met. Akad. Nauk Gruz. SSSR 1966, 15, 50-5 (Russ).
CA Vol. 69, 5765 (1968).

35. Determination of the free enthalpy of dissolution of oxygen in liquid iron at 1600° by using an electrochemical cell with a solid electrolyte.
Gatellier, Christian; Olette, Michel (Dep. Chim., Inst. Rech. Siderurg., St.-Germain-en-Laye, Fr.).
C. R. Acad. Sci. Paris, Ser. C 1968, 266(15), 1133-5 (Fr).

36. Potential field and force constants, mean amplitudes of vibration, thermodynamic functions, molecular polarizability, and absolute Raman intensities of Σ^+g modes of dicyanodiacetylene.
Nagarajan, G.; Durig, James R. (Univ. of South Carolina, Columbia).
Bull. Soc. Roy. Sci. Liege 1967, 36(9-10), 552-75.

37. Measurement of the relative volatilities of fluorides of cerium, lanthanum, praseodymium, neodymium, samarium, europium, barium, strontium, yttrium, and zirconium in mixtures of lithium fluoride and beryllium fluoride.
Hightower, J. R., Jr.; McNeese, L. E. (Oak Ridge Nat. Lab., Oak Ridge, Tenn.).
U. S. At. Energy Comm. 1968, (ORNL-TM-2058), 43 pp. (Eng). Avail. Dep.; CFSTI. From Nucl. Sci. Abstr. 1968, 22(6), 10324.

38. Carburization equilibriums of α-iron with methane-hydrogen mixtures at 600 to 800°, and their thermodynamic evaluation.
Schuermann, Eberhard; Schmidt, Theodor; Tillmann, Friedrich (Inst. Giessereiwesen Bergakad., Clausthal, Ger.). Giessereiforschung 1967, 19(1), 35-41 (Ger).

39. Internal friction of zirconium-hydrogen alloys.
Evstyukhin, A. I.; Dashkovskii, A. I.; Borkov, N. V. (USSR).
Met. Metalloved. Chist. Metal., Sb. Nauch. Rab. 1967, No. 6, 52-7 (Russ). CA Vol. 69, 12486 (1968).

40. Theoretical approach to the problem of cluster ion formation.
Hohla, Chr.; Mohnen, V. (Univ. Munich, Munich, Ger.).
U. S. At. Energy Comm. 1967, BMwF-FBK-67-74, 49 pp. (Ger).
Avail. Dep. From Nucl. Sci. Abstr. 1968, 22(3), 5034.

41. Equation of state for cesium.
Grosse, Aristid V. (Temple Univ., Philadelphia, Pa.).
Inorg. Nucl. Chem. Lett. 1968, 4(5), 261-8.

B. 42. A method of determining the coefficient of condensation of metal vapors.
Katsel, V. V.; Pavlov, S. I.; Rakhovskii, V. I. (Vses. Elektrotekh. Inst. im. Lenina, Moscow, USSR).
Zh. Tekh. Fiz. 1968, 38(4), 751-6 (Russ). CA Vol. 69, 13112 (1968)

43. In vacuo vaporization of niobium carbide from an open surface.
Vlasov, V. K.; Golubtsov, I. V. (Mosk. Gos. Univ. im. Lomonosova, Moscow, USSR).
Zh. Fiz. Khim. 1968, 42(3), 620-3 (Russ). CA Vol. 69, 13113 (1968).

44. Experimental measurement of the pressure of saturated lithium vapor.
Shpil'rain, E. E.; Belva, A. M. (Inst. Vys. Temp., Moscow, USSR).
Teplofiz. Vys. Temp. 1968, 6(2), 342-3 (Russ). CA Vol. 69, 13114 (1968).

45. Saturated vapor pressure of scandium, yttrium, and lanthanum trifluorides.
Suvorov, Al. L.; Novikov, G. I.
Vestn. Leningrad. Univ., Fiz. Khim. 1968, 23(4), 83-8 (Russ). CA Vol. 69, 13117 (1968).

46. The iron-nickel-sulfur system. Partial pressure of sulfur in the vapor coexisting with the Fe$_{1-x}$S-Ni$_{1-x}$S solid solution at 600 and 400°.
Naldrett, A. J.; Craig, J. R. (Queen's Univ., Kingston, Ont.).
Carnegie Inst. Wash., Yearb. 1968, 66, 436-40.

47. Measurement of the partial pressure of titanium tetrachloride.
Timchenko, B. S.; Mal'tsev, N. E.; Skalozub, V. M. (USSR).
Tsvet. Metal. 1968, 41(3), 64-6 (Russ). CA Vol. 69, 13119 (1968).

48. Mass spectrometric study of the reaction of oxygen with the (110) and (100) faces of a tungsten single crystal.
Ptushinskii, Yu. G.; Chuikov, B. A. (Inst. Riz., Kiev, USSR).
Fiz. Tverd. Tela 1968, 10(3), 722-8 (Russ). CA Vol. 69, 13151 (1968).

49. Dissociation of hydrogen on tantalum using modulated molecular beam technique.
Krakowski, Robert Anthony (Univ. of California, Berkeley, Calif.)
1967, 273 pp. (Eng). Avail. Univ. Microfilms, Ann Arbor, Mich., Order No. 68-96. From Diss. Abstr. B 1968, 28(8), 3309.

50. The erbium-hydrogen system.
Lundin, Charles E. (Univ. of Denver, Denver, Colo.).
Trans. Met. Soc. AIME (Amer. Inst. Mining, Met., Petrol. Eng.)
1968, 242(5), 903-7.

51. The iron-germanium-sulfur system at 700°.
Viaene, Willy; Moreau, Jules (Univ. Louvain, Louvain, Belg.).
C. R. Acad. Sci., Paris, Ser. D 1968, 266(15), 1543-5 (Fr).

52. Titanium-vanadium-oxygen system. Phase study. Structure study. Vaporization study.
Lin, Sin-Shong (Univ. of Kansas, Lawrence, Kans.). 1967, 400 pp. (Eng). Avail. Univ. Microfilms, Ann Arbor, Mich., Order No. 68-600. From Diss. Abstr. B. 1968, 28(8), 32-42.

53. Thermodynamic parameters of some reactions in thermal cathodes involving alkaline earth tungstates.
Levitskii, V. A.; Rezukhina, T. N. (Mosk. Gos. Univ., Moscow, USSR).
Zh. Tekh. Fiz. 1968, 38(3), 550-5 (Russ). CA Vol. 69, 13512 (1968).

54. Chemical and thermodynamic properties of vanadium borides and related systems: vanadium-boron system. Vanadium-boron-nitrogen system. Chemical transport studies involving vanadium.
Spear, Karl Eugene, II(Univ. of Kansas, Lawrence, Kans.). 1967, 457 pp. (Eng). Avail. Univ. Microfilms, Ann Arbor, Mich., Order No. 68-637. From Diss. Abstr. B. 1968, 28(8), 3245.

55. Vaporization, thermodynamics, and dissociation energy of yttrium monosulfide.
Steiger, Roger Arthur (Univ. of Iowa, Iowa City, Iowa). 1967, 114 pp. (Eng). Avail. Univ. Microfilms, Ann Arbor, Mich., Order No. 67-16, 845. From Diss. Abstr. B. 1968, 28(8), 3246-7.

56. Diagrams showing the relative values of vapor pressure and heat contents of elements.
Olette, M. M.; Ancey-Moret, Mrs. M. F. (Inst. Rech. Siderurgie, Saint-Germain-enlaye, France).
Vide 1967, 22(130), 213-25 (Fr).

57. Heat and entropy of sublimation of nickel dichloride, dibromide, and diiodide; dissociation energies of gaseous nickel dichloride and nickel dibromide.
McCreary, J. R.; Thorn, R. J. (Argonne Nat. Lab., Argonne, Ill.).
J. Chem. Phys. 1968, 48(7), 3290-7.

58. Evaporation of a metal absorbing laser radiation.
Anisimov, S. I. (Inst. Teor, Fiz., Moscow, USSR).
Zh. Eksp. Teor. Fiz. 1968, 54(1), 339-42 (Russ). CA Vol. 69, 14766 (1968).

B. 59. Preparation of neodymium digermanide.
Lynchak, K. A.; Kosolapova, T. Ya.; Kuz'ma, Yu. B. (Inst. Probl. Materialoved., Kiev, USSR).
Porosh. Met. 1968, 8(2), 54-6 (Russ). CA Vol. 69, 15440 (1968).

60. Water solubility in a melt of the diopside-forsterite-anorthite system at 1400° and under high pressures.
Kadik, A. A.; Khitarov, N. I.; Lebedev, E. B. (Inst. Geokhim. Anal. Khim. im. Vernadskogo, Moscow, USSR).
Geokhimiya 1968, (5), 625-6 (Russ). CA Vol. 69, 21030 (1968).

61. Preparation of zirconium carbide from the gas phase, and equilibrium in a zirconium-chlorine-carbon-hydrogen system.
Kilin, V. S.; Evstyukhin, A. I.; Dergunova, V. S. (USSR).
Met. Metalloved. Chist, Metal., Sb. Nauch. Rab. 1967, No. 6 19-29 (Russ). CA Vol. 69, 21672 (1968).

62. Vaporization of various actinide compounds. III. Vaporization of certain uranium compounds.
Krivy, I. (Ceskoslov. Akad. Ved. Rez.).
U. S. At. Energy Comm. 1967, UJV-1783. Avail. Dep., 48 pp. (Czech). From Nucl. Sci. Abstr. 1968, 22(1), 59.

63. Molecular beams.
Hushfar, F.; Stair, A. T., Jr.
R/S, Res./Develop. (Chicago) 1968, 19(2), 24-8.

64. Generation of intense molecular beams by double extraction of pure or doped supersonic beams.
Campargue, Roger (C. E. N., Saclay, Gif-sur Yvette, France).
Entropie 1967, No. 18, 55-60 (Fr).

65. Density measurement of a molecular beam by electron scattering process.
Audit, P.; Rousult, M. (Lab. Diffraction Electron., Fac. Sci., Orsay, France).
Entropie 1967, No. 18, 22-4 (Fr).

66. Intensity distribution of reflected molecular beams in relation to the adsorption and grain structure of metals.
Graf, U.; Nikuradse, A. (Inst. Elektronen Lonenforsch., Munich, Ger.).
Entropie 1967, No. 18, 115-18 (Fr).

67. Aerospace applications of molecular beams. Interactions at the wall boundary.
Hurlbut, F. C. (Univ. of California, Berkeley).
Entropie 1967, No. 18, 98-110.

68. Preliminary results concerning condensed nitrogen molecular beams.
Coutant, J.; Fois, M.; Prevot, F. (Euratom-CEA, Fontenay-aux-Roses, France).
Entropie 1967, No. 18, 47-9 (Fr).

69. Different methods used in the Laboratoire Mediterraneen de Recherches Thermodynamiques to measure molecular beam velocities of low intensities.
Clapier, Robert (Lab. Mediterraneen Rech. Thermodyn., Nice, France).
Entropie 1967, No. 18, 50-4 (Fr.).

70. Intensity distribution of reflected molecular beams in relation to the roughness of brass surfaces.
Bark, P.; Nikuradse, A. (Inst. Elektronen-Ionenforsch., Munich, Ger.).
Entropie 1967, No. 18, 111-14 (Fr).

71. Electron impact studies of volatile inorganic compounds.
Saalfeld, F. E.; McDowell, M. V. (Nav. Res. Lab., Washington, D. C.).
U. S., Clearinghouse Fed. Sci. Tech. Inform. 1967, AD 664216. Avail. CFSTI, 35 pp. (Eng). From U. S. Govt. Res. Develop. Rep. 1968, 68(6), 53.

72. The lifetime of metastably bound polar molecules.
Ghosh, A. K. (Indian Assoc. Cultivation Sci., Calcutta).
Indian J. Phys. 1967, 41(9), 663-6.

73. Gas-solid exchange reactions: zinc vapor and poly-crystalline zinc selenide.
Secco, E. A.; Su, Chien-Huo (St. Francis Xavier Univ., Antigonish, Nova Scotia).
Can. J. Chem. 1968, 46(10), 1621-4.

74. Vapor pressures of liquid molybdenum (2890° to 2990°K.) and liquid zirconium (2229° to 2795°K.).
Koch, Robert K.; Anable, W. E. (Albany Met. Res. Center, Bur. of Mines, Albany, Ore.).
U. S. Bur. Mines, Rep. Invest. 1968, No. 7063, 22 pp.

75. Volatility of tungsten trioxide.
Tagirov, I. K.; Tsvetkov, Yu. V.
Met. Tsvet, Redk. Metal., Akad. Nauk SSSR, Inst. Met. 1967, 135-7 (Russ). CA Vol. 69, 22225 (1968).

B. 76. Vapor pressures of liquid niobium (2740-3140°K.) and liquid hafnium (2500-810°K.).
Koch, Robert K.; Anable, Wallace E.; Beall, R. A. (Met. Res. Center, Bur. of Mines, Albany, Ore.).
U. S. Bur. Mines, Rep. Invest. 1968, No. 7125, 24 pp.

77. Atomic absorption spectrophotometry as a technique in the determination of vapor pressure of metallic elements.
Panday, V. K.; Ganguly, A. K. (Health Phys. Div., Bhabha At. Res. Center, Bombay, India).
Curr. Sci. 1968, 37(9), 243-5.

78. Vapor pressure of hypostoichiometric urania as a function of composition.
Szware, R.; Latta, R. E. (Nucl. Mater. and Propul. Oper., Gen. Elec. Co., Cincinnati, Ohio).
J. Amer. Ceram. Soc. 1968, 51(5), 264-8.

79. Evaporation of germanium nitride.
Ryklis, E. A.; Bolgar, A. S.; Lyutaya, M. D.; Fesenko, V. V. (Inst. Probl. Materialoved., Kiev, USSR).
Porosh. Met. 1968, 8(2), 64-7 (Russ). CA Vol. 69, 22233 (1968).

80. Calculation of the rates of vaporization according to results of effusion measurements.
Priselkov, Yu. A. (Mosk. Gos. Univ. im. Lomonosova, Moscow, USSR).
Zh. Fiz, Khim. 1968, 42(3), 796-8 (Russ). CA Vol. 69, 22234 (196

81. The nature of residual gases during the evaporation of silicon oxide.
Pitt, K.E.G. (Morganite Res. Develop. Ltd., London).
Vacuum 1967, 17(12), 649.

82. Measurement of the translational accommodation of argon, oxygen, and nitrogen on a tungsten surface.
Ehrhardt, H.; Grosser, J. (Univ. Freiburg, Ger.).
Z. Naturforsch., A 1967, 22(10), 1626-7 (Ger).

83. Kinetics of vaporization of gallium arsenide.
Aitkhozhin, S. A.; Semiletov, S. A.; Lider, V. V. (Inst. Kristallogr., Moscow, USSR).
Fiz. Tverd. Tela 1968, 10(4), 1259-60 (Russ). CA Vol. 69, 22409 (1968).

84. Phase equilibria in the system cobalt oxide-copper oxide in air.
Driessens, F. C. M.; Rieck, G. D.; Coenen, H. N. (Philips Res. Lab., N. V. Philips Gloeilampenfabrieken, Eindhoven, Neth.).
J. Inorg. Nucl. Chem 1968, 30(3), 747-53.

85. Carbon monoxide equilibrium pressure over tantalum-oxygen-carbon solutions.
Fromm, Eckenhard; Heinkel, Otto (Max-Planck-Inst. Metallforsch., Inst. Sondermetalle, Stuttgart, Ger.).
Z. Metallk. 1967, 58(11), 805-10 (Ger).

86. Phase diagrams of the uranium-oxygen-carbon system.
Knacke, Ottmar; Krahe, Josef; Mueller, Franz (Tech. Hochsch., Aachen, Ger.).
Z. Metallk. 1967, 58(11), 914-20 (Ger).

87. Temperature and concentration dependence of the thermodynamic functions of carbide phases of niobium and tantalum.
Nikol'skaya, T. A.; Avarbe, R. G.; Vil'k, Yu. N. (Gos. Inst.
Prikl. Khim. 1968, 42(3), 637-40 (Russ). CA Vol. 69, 22634 (1968).

88. Mass-spectrometric study of potassium hydroxide vaporization.
Gusarov, A. V.; Gorokhov, L. N. (Inst. Vys. Temp., Moscow, USSR).
Zh. Fiz. Khim. 1968, 42(4), 860-5 (Russ). CA Vol. 69, 22638 (1968).

89. Determination of the saturated vapor pressure of solid bismuth telluride.
Boncheva-Mladenova, Z.; Pashinkin, A. S.; Novoselova, A. V. (Mosk. Gos. Univ. im. Lomonosova, Moscow, USSR).
Izv. Akad. Nauk SSSR, Neorg. Mater. 1968, 4(2), 291-2 (Russ).
CA Vol. 69, 22643 (1968).

90. Mass-spectrometric studies of bonding in the Group IIA fluorides.
Hildenbrand, D. L. (Advan. Res. Lab., Douglas Aircraft Co., Inc., Huntington Beach, Calif.).
J. Chem. Phys. 1968, 48(8), 3657-65.

91. Thermochemical study of nitrates of alkali metals, alkaline earth metals, and lanthanum in water-ethylene glycol mixtures.
Krestov, G. A.; Egorova, I. V. (Ivanovsk. Khim. Tekhnol. Inst., Ivanovo).
Izv. Vyssh. Ucheb. Zaved., Khim. Tekhnol. 1967, 10(7), 750-3 (Russ). CA Vol. 69, 22691 (1968).

92. Solubility of hydrogen in subgroup VI transition metals.
Mazaev, A. A.; Avarbe, R. G.; Vil'k, Yu. N. (Gos. Inst. Prikl. Khim., Leningrad, USSR).
Zh. Fiz. Khim. 1968, 42(3), 641-3 (Russ). CA Vol. 69, 22693 (1968).

B. 93. Mass-spectrometric determination of the dissociation energy of the molecule AuMn.
Smoes, S.; Drowart, J. (Univ. Libre, Brussels, Belg.).
Chem. Commun. 1968, (9), 534-5.

94. Calorimetric study of iron (III) chloride.
Mapes, W. H.; Gregory, N. W. (Univ. of Washington, Seattle, Wash.).
J. Chem. Eng. Data 1968, 13(2), 249-51.

95. Some physicochemical properties of components of the MoO_2Cl_2-$MoCl_5$ system.
Eliseev, S. S.; Zhilenko, V. A. (Inst. Khim., Dushambe, USSR).
Dokl. Akad. Nauk Tadzh. SSR 1968, 11(1), 41-5 (Russ).
CA Vol. 69, 22710 (1968).

96. Behavior of a sulfur vapor electrode in sulfide melts.
Thompson, W. T.; Flengas, S. N. (Univ. Toronto, Toronto, Ont.).
Can. J. Chem. 1968, 46(10), 1611-20.

97. Thermodynamic analysis of the van Arkel iodide process.
Shelton, R. A. J. (Univ. Manchester, Manchester, Engl.).
Inst. Mining Met., Trans./Sect. C 1968, 77(March), C32-C35.

98. Solubility of oxygen in δ-iron.
Kusano, Akihiko; Ito, Koin; Sano, Kokichi (Nagoya Univ., Nagoya, Japan).
Tetsu To Hagane 1968, 54(5), 553-60 (Japan). CA Vol. 69, 29541 (1968).

99. Activity and solubility of oxygen in liquid iron-niobium alloy.
Sato, Yuko; Suzuki, Kenichiro; Omori, Yasuo; Sanbongi, Koji (Tohoku Univ., Sendai, Japan).
Tetsu To Hagane 1968, 54(4), 330-5 (Japan). CA Vol. 69, 29542 (1968).

100. Reaction of hydrogen with palladium-nickel alloys.
Rodina, A. A.; Gurevich, M.A.; Doronicheva, N. I.; Mel'nikova, L. V. (Gos. Nauch.-Issled. Proekt. Inst. Redkometal. Prom., Moscow, USSR).
Zh. Fiz. Khim. 1968, 42(4), 977-81 (Russ). CA Vol. 69, 29682 (1968).

101. Thermodynamic data for nickel-zinc alloys.
Chart, T. G.; Critchley, J. K.; Williams, R. (Brunel Univ., Hillingdon, Engl.).
J. Inst. Metals 1968, 96, 224.

102. Measurement of vapor pressures over solid alloys of calcium with silicon and lead.
Muradov, V. G.; Gel'd, P. V. (USSR).
Uch. Zap., Ul'yanovsk. Gos. Pedagog. Inst. 1966, 20(4), 116-21 (Russ). CA Vol. 69, 29720 (1968).

103. A mass-spectrometric study of the evaporation of the ceramics uranium dioxide and uranium carbide.
Pattoret, A.; Drowart, J.; Smoes, S. (Comm. Energ. At., Saclay, Fr.).
Bull. Soc. Fr. Ceram. 1967, No. 77, 75-90 (Fr).

104. The behavior of a molecular beam scattered by a solid surface: theoretical study for normal incidence.
Nocilla, Silvio; Chiado'piat, Grazia (Politec., Turin, Italy).
Entropie 1967, No. 18, 132-7.

105. Rate of sublimation of magnesium nitride from effusion cells and from free surfaces in vacuo and in argon and nitrogen gases.
Blank, Bette A. H.; Searcy, Alan W. (Lawrence Rad. Lab., Univ. of California, Berkeley, Calif.).
J. Phys. Chem. 1968, 72(6), 2241-3.

106. Chemisorption of nitrous oxide by tungsten.
Gasser, R. P. H.; Lawrence, C. P. (Phys. Chem. Lab., Oxford, Engl.).
Surface Sci. 1968, 10(1), 91-101.

107. Carton monoxide adsorption on (100) and (211) tungsten single-crystal surfaces: changes in work function.
Armstrong, R. A. (Radio Elec. Eng. Div., Nat. Res. Counc., Ottawa, Can.).
Can. J. Phys. 1968, 46(8), 949-58.

108. Orientation-dependent sticking coefficient in the germanium-oxygen system.
Lever, R. F. (IBM Watson Res. Center, Yorktown Heights, N. Y.).
Surface Sci. 1968, 9(2), 370-3.

109. Field emission microscopic observation of the adsorption of oxygen, nitrogen, hydrogen, carbon monoxide, and xenon on rhenium.
Ishizuka, Kazuhiko (Hokkaido Univ., Sapporo, Japan).
J. Res. Inst. Catal., Hokkaido Univ. 1967, 15(2), 95-110.

110. Mass-spectrometric determination of volatility of oxygen above oxide catalysts.
Sazonov, V. A.; Popovskii, V. V.; Boreskov, G. K. (Inst. Katal., Novosibirsk, USSR)
Kinet. Katal. 1968, 9(2), 307-11 (Russ). CA Vol. 69, 30503 (1968).

B. 111. Solubility of oxygen and chlorine in liquid lithium.
Konovalov, E. E.; Seliverstov, N. I.; Emel'yanov, V. P. (USSR).
Izv. Akad. Nauk SSSR, Metal. 1968, (3), 109-12 (Russ).
CA Vol. 69, 30633 (1968).

112. Some tensimetric studies in the mixed ceria-terbia system.
Kordis, J.; Eyring, L. (Arizona State Univ., Tempe, Ariz.).
J. Phys. Chem. 1968, 72(6), 2030-44.

113. Tensimetric study of the terbia and praseodymia systems and the mixed praseodymia-terbia system.
Kordis, J.; Eyring, L. (Arizona State Univ., Tempe, Ariz.).
J. Phys. Chem. 1968, 72(6), 2044-54.

114. Comparison of the plutonium-oxygen system with the rare earth oxide systems cerium-oxygen, praseodymium-oxygen, and terbium-oxygen.
Blandk, H. (Inst. Transuranium Elem., Eur. At. Energy Community Karlsruhe, Ger.).
Communaute Eur. Energ. At.-EURATOM 1967, (EUR-3563e), 42 pp.
Avail. Dep. From Nucl. Sci. Abstr. 1968, 22(3), 4888.

115. Pressure-temperature-composition diagram for the uranium-hydrogen system.
Guinet, Ph. (C.E.N., Grenoble, France).
J. Nucl. Mater. 1968, 25(1), 24-37 (Fr).

116. Dissociation pressures of various metallic oxides.
Kodera, Kumasaburo; Kusunoki, Isao; Shimizu, Shinkichi (Kyoto Univ., Sakyo, Japan).
Bull. Chem. Soc. Jap. 1968, 41(5), 1039-45. CA Vol. 69, 30760 (1968).

117. Thermal dissociation of hafnium tetraiodide.
Gerlach, J.; Krumme, J. P.; Pawlek, F. (Tech. Univ. Berlin, Berlin, Ger.).
J. Less-Common Metals 1968, 15(3), 303-10 (Ger).

118. Mass spectrometric studies at high temperatures. XXIII. Vapor equilibria over molten sodium trifluorostannate and potassium trifluorostannate.
Hastie, J. W.; Zmbov, K. F.; Margrave, J. L. (Rice Univ., Houston, Tex.).
J. Inorg. Nucl. Chem. 1968, 30(3), 729-36.

119. High-temperature thermodynamic data for $UO_{2\pm x}$.
Markin, T. L.; Wheeler, V. J.; Bones, J. R. (Chem. Div., At. Energy Res. Estab., Harwell, Engl.).
J. Inorg. Nucl. Chem. 1968, 30(3), 807-17.

120. Chemical and thermodynamic properties of vanadium borides and related systems. The vanadium-boron system. The vanadium-boron-nitrogen system. Chemical transport studies involving vanadium.
Spear, Karl E., II (Univ. of Kansas, Lawrence),
U. S. At. Energy Comm. 1967, COO 1140-157. Avail. Dep.; CFSTI, 458 pp. (Eng). From Nucl. Sci. Abstr. 1967, 21(18), 32140.

121. Heat of sublimation and the evaporation coefficient of praseodymium trifluoride.
Skinner, Harry Bryant, Jr. (Lawrence Radiation Lab., Univ. of California, Berkeley).
U. S. At. Energy Comm. 1967, UCRL-17804. Avail. Dep.; CFSTI, 22 pp. (Eng). From Nucl. Sci. Abstr. 1967, 21(24), 45094.

122. Vaporization, thermodynamics, and dissociation energy of lanthanum monosulfide. II.
Cater, E. David; Steiger, Ronald P. (Univ. of Iowa, Iowa City, Iowa).
J. Phys. Chem. 1968, 72(6), 2231-3.

123. Gaseous intermetallic molecules.
Drowart, John (Univ. Libra, Brussels, Belg.).
Phase Stabil. Metals Alloys 1967, 305-17.

124. Measurement of activation energy by determining the intensity of a molecular beam. Dissociation of sodium hydride.
Venien, Jean Pierre (Fac. Sci., Nantes, Fr.).
C. R. Acad. Sci., Paris, Ser. C 1968, 266(17), 1247-9 (Fr.).

125. Exchange of energy between tungsten at high temperatures and gases at room temperature.
Lim, Mahn Dick (Lawrence Rad. Lab., Univ. of California, Berkeley).
U. S. At. Energy Comm. 1967, UCRL-17395. Avail. Dep.; CFSTI, 98 pp. (Eng). From Nucl. Sci, Abstr. 1967, 21(18), 32148.

126. Mass spectra of energy-analyzed hydrogen cluster ions.
Buchheit, Konrad; Henkes, Wolfgang (Univ. Karlsruhe, Karlsruhe, Ger.).
Z. Angew. Phys. 1968, 24(4), 191-6 (Ger).

127. Direct measurement of the activity of metal alloy components by mass spectrometry.
Cameresi, Gianfranco G.; De Maria, Giovanni; Gigli, Rosario; Piacente, Vincenzo (Univ. Roma, Rome, Italy).
Ric. Sci. 1967, 37(12), 1092-7 (Ital).

B. 128. Mass spectrometric studies of laser-induced vaporization.
I. Selenium.
Knox, Bruce E. (Pennsylvania State Univ., University Park, Pa.).
Mater. Res. Bull. 1968, 3(4), 329-36.

129. Mass spectrometric studies of laser-induced vaporization.
II. Bismuth-selenium system.
Knox, Bruce E.; Ban, Vladimir S.; Schottmiller, John (Pennsylvani State Univ., University Park, Pa.).
Mater. Res. Bull. 1968, 3(4), 337-48.

130. Equilibrium pressure of carbon monoxide above uranium oxycarbides in the presence of the dioxide.
Bazin, J.; Accary, A. (Comm. Energ. At., Saclay, Fr.).
Bull. Soc. Fr. Ceram. 1967, No. 77 109-17 (Fr).

131. Solubility of water vapor in slag.
Davis, M.; Spasov, Anaki (Bulg.).
Rudodobiv Met. (Sofia) 1968, 23(2), 33-8 (Bulg).

132. Solubility of hydrogen in molten ferrochromium.
Bezobrazov, S. V.; Danilovich, Yu. A.; Charushnikova, G. V.; Morozov, A. N. (USSR).
Izv. Akad, Nauk SSSR, Metal. 1968, (3), 65-70 (Russ). CA Vol. 6 38317 (1968).

133. Formation of sulfide scale on copper.
Konev, V. N.; Krushatina, N. A.; Riffel, M. A. (Ural. Gos. Univ. im. Gor'kogo, Sverdlovsk, USSR).
Zashch. Metal. 1968, 4(2), 207-8 (Russ). CA Vol. 69, 38342, (1968).

134. Vaporization of lead zirconate-lead titanate materials. II. Hot-pressed compositions at near theoretical density.
Northrop, David A. (Sandia Lab., Albuquerque, N. Mex.).
J. Amer. Ceram. Soc. 1968, 51(7), 357-61.

135. Numerical experiments on scattering of noble gases from single-crystal silver.
Oman, Richard A. (Res. Dep., Grumman Aircraft Eng. Corp., Bethpage, N. Y.).
J. Chem. Phys. 1968, 48(9), 3919-29.

136. Second virial coefficient of atomic nitrogen and oxygen.
Kessel'man, P. M.; Bestuzhev, A. S.; Blank, Yu. I. (Odess. Tekhnol. Inst. im. Lomonosova, Odessa, USSR).
Teplofiz. Vys. Temp. 1968, 6(2), 348-50 (Russ). CA Vol. 69, 38843 (1968).

137. Rare-earth element desorption from tungsten surfaces.
Alekseev, N. I. (Fiz.-Tekh. Inst. im. Ioffe, Leningrad).
Zh. Tekh. Fiz. 1967, 37(12), 2224-8 (Russ). CA Vol. 69, 38991 (1968).

138. Method of determining solubility isotherms in ternary systems from the thermodynamic properties of binary alloys and the solubility of hydrogen in ferrite steels.
Burylev, B. P. (USSR).
Mezhvuz. Sb. Zap.-Sib. Sov. Koord. Planir. Nauch.-Issled. Rab. Tekh. Estextv. Nauk. 1966, No. 5, 138 (Russ). From Ref. Zh., Met. 1967, Abstr. No. 618. CA Vol. 69, 39224 (1968).

139. Review and analysis of phase behavior and thermodynamic properties of the plutonium-nitrogen system.
Spear, K. E.; Leitnaker, J. M. (Oak Ridge Nat. Lab., Oak Ridge, Tenn.). U. S. At. Energy Comm. 1968, ORNL-TM-2106, 24 pp. (Eng). Avail. Dep.; CFSTI. From Nucl. Sci. Abstr. 1968, 22(9), 17176.

140. Thermodynamics of the erbium-deuterium system.
Lundin, Charles E. (Univ. of Denver, Denver, Colo.).
Trans. Met. Soc. AIME (Amer. Inst. Mining, Met., Petrol. Eng.) 1968, 242(6), 1161-5.

141. Thermodynamics of the system potassium-mercury.
LaMantia, Charles R.; Bonilla, Charles F. (Columbia Univ., New York, N. Y.).
U. S. At. Energy Comm. 1967, CU-2660-34, 41 pp. (Eng). Avail. Dep.; CFSTI. From Nucl. Sci. Abstr. 1968, 22(9), 17102.

142. Thermodynamics of the dissolution of oxygen and nitrogen in uranium monocarbide.
Alcock, C. B.; Javed, N. A.; Steele, B. C. H. (Imp. Coll. Sci. Technol., London, Engl.).
Bull. Soc. Fr. Ceram. 1967, No. 77 99-108 (Fr).

143. Thermal decomposition of rhenium disulfide.
Penzimonzh, I. I.; Tumarbekov, Z. T.; Kozhakhmetov, S. M. (USSR).
Tr. Inst. Met. Obogashch., Akad. Nauk Kaz. SSR 1968, 33, 82-6 (Russ). CA Vol. 69, 40903 (1968).